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Fate of Priority Pollutants in Publicly Owned Treatment Works

Edward C. Jordon Co., Inc.
Portland, ME

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30 Day Study

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Fate of Priority Toxic Pollutants in Publicly Owned Treatment Works

30-Day Study

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Influent, primary effluent, secondary effluent, primary sludge, and secondary sludge samples were collected at a conventional activated sludge publicy owned treatment works (POTW) for 30 consecutive days. The samples were analyzed for priority toxic pollutants and selected conventional and unconventional pollutants. Results of the analyses were used to: (1) compare the variability of POTW influent priority pollutant concentraction for a six day and 30 day sampling episode; (2) to evaluate the performance of POTW processes with report to treatment of priority pollutants; and (3) to document the fate of priority pollutants in an POTW.

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ABSTRACT

This project was initiated to document the priority toxic pollutant variability of the influent waste stream to a Publicly Owned Treatment Works (POTW) for 30 consecutive days and to determine the fate of these pollutants in a POTW.

Influent, primary effluent, secondary effluent, primary sludge, secondary sludge, vacuum filter filtrate, digester decant, and background tap water samples were collected at a conventional activated sludge plant. Samples were analyzed for specified conventional and non-conventional pollutants and for priority toxic pollutants. Results from the 30-day study were compared to those obtained during a similar six-day sampling program conducted at the same POTW during another EPA study. With the exception of methylene chloride, cyanide, and bis(2-ethlyhexyl)phthalate, the variability of the influent pollutant concentrations for the six-day and the 30-day studies was comparable. A comparison of the six-day and 30-day study data reveals that fewer pollutants were detected 100 percent of the time in the waste streams during the 30-day study and that more pollutants were identified at least once during the 30-day study than during the six-day study. These two factors result from the increased time span of the 30-day study and the diversified industrial character of the tributary area, respectively, and are consistent for each of the waste streams sampled.

Combined, the two studies provided a 36-day data base. In the influent samples, 72 priority toxic pollutants were detected at least once, 24 pollutants were detected at least 50 percent of the time, and seven pollutants were detected 100 percent of the time. In the secondary effluent waste stream, 53 priority toxic pollutants were detected at least once, 19 priority toxic pollutants were detected at least 50 percent of the time or greater, and five pollutants were detected 100 percent of the time. Correlations relating influent and effluent priority pollutant concentrations were established. Though consistent statistical relationships do not exist, an increase in the influent concentration was observed to cause a corresponding increase (to a lesser extent) in the effluent concentration. Results of regression analyses for the 19 most frequently occurring priority toxic pollutants in the secondary effluent and several conventional pollutants indicate poor correlations overall.

Daily influent priority toxic pollutant mass loadings revealed that weekday loadings were substantially greater than weekend loadings. A comparison of the average weekday loadings to the average Sunday loadings seems to confirm the theory that priority toxic pollutants are principally byproducts of industrial processes. Conservative estimates indicated that a minimum of 70 percent of the metal mass loadings, 76 percent of the base/neutral extractable organic loadings, 54 percent of the volatile organics loading, and 30 percent of the acid extractable organic mass loadings are associated with industrial discharges.

The calculated average mass removals through secondary treatment were: 74 percent for metals, 80 percent for the volatile organic compounds, 69 percent for the acid extractable organic compounds, and 62 percent for the base/neutral extractable organic compounds. The majority of the treatment reduction observed resulted from the secondary treatment process. The metals and high molecular weight base/neutral extractable organic compounds tended to concentrate in the primary and secondary sludges. The volatile organics were substantially reduced by the activated sludge treatment process, most likely through air stripping or, to a lesser extent, biodegradation.

Priority toxic pollutant metal influent mass loading (particularly lead, zinc, mercury, and copper) substantially increased during wet weather periods. This increase is theorized to be either a result of the pollutants being present in sediments scoured from the combined sewer collection system or contained in runoff entering the collection system.

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LIST OF ABBREVIATIONS AND SYMBOLS

BADT - best available demonstrated technology
BATEA - best available treatment economically achievable
BPT - best practicable treatment
BOD_5 - biochemical oxygen demand
COD - chemical oxygen demand
cfm - cubic foot per minute
CSO - combined sewer overflow
$CuSO_4$ - copper sulfate
DL - detection limit
EPA - U.S. Environmental Protection Agency
EGD-OAS - Effluent Guideline Division - Office of Analytical Support
gpd - gallons per day
gpm - gallons per minute
$HgCL_2$ - mercuric chloride
HNO_3 - nitric acid
HP - horsepower
H_3PO_4 - phosphoric acid
H_2SO_4 - sulfuric acid
I or J - interference present
L, < - less than
mgd - millions gallons per day
mg/l - milligrams per liter
ml - milliliter
MBWWTP - Mocassin Bend Wastewater Treatment Plant
NaOH - sodium hydroxide
NC - not calculated
ND - not detected
ng/l - nanograms per liter
NS - not sampled
NSPS - new source performance standard
O&G - oil and grease
PNA - polynuclear aromatic hydrocarbons
POTW - publicly owned treatment works
ppb - parts per billion
QA/QC - quality assurance/quality control
sf - square foot
SIC - standard industrial classification
T - trace
TOC - total organic carbon
TSS - total suspended solids
U - unconfirmed
µg/ℓ - micrograms per liter
VOA - volatile organic analyte
WAS - waste activated sludge

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SECTION 1

SUMMARY AND CONCLUSIONS

SUMMARY

Influent, primary effluent, secondary effluent, primary sludge and waste activated sludge streams at the Moccasin Bend Wastewater Treatment Plant (MBWWTP) in Chattanooga, Tennessee, were flow monitored and sampled for specified conventional and non-conventional pollutants and for priority toxic pollutants. Samples were composited each 24-hour period for 30 consecutive days. Analytical results from the 30-day sampling episode were combined with analytical results from a six-day sampling episode conducted at the MBWWTP six months prior to this study to obtain a 36-day data base. Results of the combined 36-day sampling episode are:

1. A total of 72 priority toxic pollutants were detected in the influent waste stream at least once during the 36-day combined study; 24 pollutants were detected 50 percent or more of the time; and seven pollutants were detected 100 percent of the time. Cyanide[1] (883 µg/ℓ), zinc (358 µg/ℓ), toluene (329 µg/ℓ), phenol (244 µg/ℓ), and chromium (226 µg/ℓ) were present in the influent in the highest average concentrations.

2. A total of 53 priority toxic pollutants were detected in the secondary effluent at least once during the 36-day combined study; 19 pollutants were detected 50 percent or more of the time; and five pollutants were detected 100 percent of the time. Zinc (99 µg/ℓ), cyanide (92 µg/ℓ), methylene chloride (72 µg/ℓ), toluene (54 µg/ℓ), nickel (46 µg/ℓ), and phenol (37 µg/ℓ) were present in the secondary effluent in the highest average concentrations.

3. A total of 59 priority toxic pollutants were detected in the primary sludge waste stream at least once during the 36-day combined study; 27 pollutants were detected 50 percent of the time or more; and eight pollutants (chromium, copper, nickel, arsenic, lead, silver, zinc, and cyanide) were detected 100 percent of the time. Zinc (26.7 mg/ℓ), chromium (13.2 mg/ℓ), cyanide (8.1 mg/ℓ), copper (7.4 mg/ℓ), lead (5.8 mg/ℓ), nickel (4.1 mg/ℓ), bis(2-ethylhexyl)phthalate (1.5 mg/ℓ), and 1,2,4-trichlorobenzene (1.1 mg/ℓ) were present in the primary sludge in the highest average concentrations.

4. A total of 42 priority toxic pollutants were detected in the secondary sludge at least once during the 36-day combined study; 14 pollutants were detected 50 percent or more of the time; and seven priority toxic pollutants (chromium, copper, silver, zinc, nickel, arsenic, and cyanide) were

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[1] Combined 36-day average includes analytical results from the six-day study which are suspected to be erroneously high.

detected 100 percent of the time. Chromium (5.5 mg/ℓ), copper (1.2 mg/ℓ), lead (0.7 mg/ℓ), nickel (0.7 mg/ℓ), cyanide (0.6 mg/ℓ), bis(2-ethylhexyl) phthalate (0.2 mg/ℓ), and silver (0.2 mg/ℓ) were present in the secondary sludge in the highest average concentrations.

5. Chloroform was detected at an average concentration of 74 μg/ℓ in the influent waste stream throughout the 36-day sampling period. This pollutant was also detected in 100 percent of the municipal tap water samples at an average concentation of 32 μg/ℓ.

6. For those priority toxic pollutants detected in the influent waste stream during the 36-day combined study over 50 percent of the time, average secondary treatment mass removals through biological treatment were 74 percent for metals, 80 percent for volatile organic compounds, 69 percent for acid extractable organic compounds, and 62 percent for the base/neutral extractable organic compounds.

7. The average percent removal for the combined 36-day study for both biochemical oxygen demand (BOD5) and total suspended solids (TSS) through biological treatment was 86 percent.

8. Quality assurance results for the 30-day data indicate that the wastewater data are good overall. The average of mean recoveries was 89.5 ± 16.8 percent for purgeable compounds; 79 ± 18.5 percent for base/neutral pollutants; 45.0 ± 23.9 percent for acid pollutants (phenol being the only commonly occurring acid pollutant); and greater than 95 percent for metals (except for boron and tin which had low recoveries overall).

9. Quality assurance results for sludge samples were fair overall in comparison to the wastewater quality assurance data. The average of mean recoveries was 100.49 ± 15.5 percent for purgeable compounds; 45.0 ± 23.4 percent for base/neutral compounds; 36.6 ± 17.9 percent for acid compounds; and 74.0 ± 47.1 percent for metals.

The 30-day study provides a long-term data base that identifies the occurrence, quantity and fate of priority toxic pollutants as the pollutants travel through a POTW. As a result of the established data base prior to the implementation of a pretreatment program, the MBWWTP provides an excellent facility for further priority toxic pollutant studies. The effects on the influent quality for the POTW after enforcement of a pretreatment program should be addressed in a subsequent study.

CONCLUSIONS

The following conclusions are based on results of evaluation of the six-day, 30-day, and combined 36-day data:

1. Forty-three percent of the chloroform in the influent waste stream to the MBWWTP is attributable to the chloroform in the potable water supply of the Chattanooga area.

2. With the exception of cyanide, the influent priority pollutant concentrations from the six-day and 30-day studies are comparable. All but five

pollutant mean values from the six-day study are within one standard deviation of the mean values from the 30-day study. The influent data from the six-day study adequately represents daily influent loads to the MBWWTP.

3. The bulk of the priority pollutants in the influent waste stream to the MBWWTP appear to originate as byproducts of industrial processes.

4. Primary sedimentation did not afford significant toxic pollutant removals. Primary treatment removals for toxic pollutants ranged from less than 20 percent for metals and volatile organics to no removal for acid fractions. Several base/neutral pollutants exhibited an affinity to concentrate in the primary sludge; however, net primary removals were low due to the presence of these pollutants at such low concentrations (near the pollutant detection limit) in the influent and primary effluent waste streams. Total suspended solids removal averaged only 30 percent (design removal is 60 percent).

5. The majority of treatment reduction was the result of the activated sludge secondary treatment process. Volatile organic compounds were significantly air-stripped or biodegraded during secondary treatment as evidenced by the decrease in volatile organic concentrations across the activated sludge process and lack of pollutant accumulation in the WAS. Bio-floc adsorption was the primary removal mechanism for acid, base/neutral, and metal compounds as indicated by the increase in pollutant concentrations in the WAS.

6. Results of mass balance analyses indicate that acid, base/neutral and volatile compounds are reduced significantly during secondary treatment. Metal compounds showed a dramatic increase across the secondary system. Erroneous WAS pump records are suspected as causing this mass increase of conservative pollutants.

7. The vacuum filter filtrate and digester decant waste streams, although high in metal content, are insignificant in the overall metals mass balance due to the low volumes of these recycle lines.

8. Correlations relating influent and effluent priority toxic pollutant concentrations indicate changes in the influent concentration do affect the effluent concentrations. In general, slopes of the linear correlations were greater than one, indicating that an increase in the influent concentration results in a corresponding increase (to a lesser extent) in the effluent concentration.

9. Regression analyses between the 19 most freqently occurring priority toxic pollutants in the secondary effluent and two conventional pollutants (BOD_5 and TSS) showed poor correlations. In general, the level of BOD_5 or TSS is not indicative of the level of toxic pollutants in the secondary effluent.

10. Influent loads (particularly for lead, zinc and copper) increased substantially during three separate storm events. This appears to result either from metals entering the sewerage system in urban runoff via combined sewers or from sewer sediments being scoured from the collection system during storm events.

SECTION 2

INTRODUCTION

BACKGROUND

Prior to 1972, efforts to curb the pollution of the nation's waterways were directed mainly toward controlling conventional pollutants: total suspended solids (TSS), biochemical oxygen demand (BOD5), viruses and bacteria (indicated by coliform count), and acidity or alkalinity (pH). These parameters were regulated on a case by case basis for direct dischargers, taking into account the assimilative capacity of the stream receiving the treated effluents. In 1972, the Water Pollution Control Act Amendments (P.L.92-500) were enacted and a wholly different approach to regulating pollutant discharges was initiated.

P.L. 92-500 required the U.S. Environmental Protection Agency (EPA) to promulgate national technology-based effluent limitations for both municipal and industrial dischargers. The limitations were to be based on the performance of a selected wastewater treatment technology considering factors such as costs and non-water quality environmental impacts. P.L. 92-500 required that the municipal limitations be uniformly applied to all municipal dischargers and that the industrial limitations be uniformly applied to industries in the same category or subcategory.

Two levels of control were required for existing industrial dischargers in P.L. 92-500: 1) limitations based on Best Practicable Technology (BPT) (to be met by 1977); and 2) limitations based on Best Available Technology Economically Achievable (BAT or BATEA), a more stringent level of control with a compliance date of mid-1983. The Act also required EPA to promulgate New Source Performance Standards (NSPS) based on the Best Available Demonstrated Technology (BADT). NSPS applied to industrial facilities constructed after promulgation of the standards.

P.L. 92-500 required EPA to develop a list of toxic pollutants and to establish effluent limitations for these pollutants. Selection of the pollutants to be placed on the list and the respective effluent limitations were to be based on the effect of a pollutant on the water environment.

Congress also addressed indirect discharges [industries that discharge their wastewater to a publicly owned treatment works (POTW)] in P.L. 92-500. EPA was required to promulgate technology-based pretreatment standards for indirect dischargers for any pollutant that interfered with, passed through, or was otherwise incompatible with POTWs.

In June 1976, the Natural Resources Defense Council, Inc. (NRDC) brought legal action against EPA to hasten compliance with certain sections of P.L. 92-500. As a result of a settlement agreement between EPA and NRDC, EPA was required to promulgate effluent limitations by industrial category for 65 toxic compounds or classes of compounds which were subsequently divided into 129 priority toxic pollutants. The limitations were to be based on BAT instead of the water quality considerations specified in P.L. 92-500 for toxic pollutants.

In 1977, Congress enacted the Clean Water Act (P.L. 95-217). The new Act included the settlement agreement requirement for BAT limitations for priority toxic pollutants as well as some new provisions including extending the July 1983 deadline for complying with priority pollutant BAT limitations to July 1984. In addition, P.L. 95-217 required EPA to promulgate BAT limitations for other toxic pollutants and for non-conventional pollutants. The Act also stipulated that effluent limitations for conventional pollutants be based on Best Conventional Technology (BCT) instead of BAT. The requirement in P.L. 92-500 for NSPS for new direct industrial dischargers and pretreatment standards for indirect dischargers remained unchanged in the new Act.

In an effort to determine the source, occurrence, and fate of priority toxic pollutants in sewerage systems and in POTWs, EPA initiated several related studies. In one study, the sources (residential, commercial, or industrial) of priority toxic pollutants in the influent to POTWs were evaluated. A second study addressed the occurrence and fate of priority toxic pollutants in 40 POTWs with different treatment processes and diversified industrial wastewater contributions; this study was later expanded to include 10 additional POTWs, each with only one significant industrial discharger. The third study (the subject of this report) evaluated the occurrence and fate of priority toxic pollutants in a POTW for 30 consecutive days; the influent waste stream variability for the 30-day period was compared to the variability found during a previously conducted six-day study. A fourth study is currently being conducted through the Nationwide Urban Runoff Program to assess the occurrence of priority toxic pollutants in urban runoff. A fifth study has recently been initiated to estimate the magnitude of priority toxic pollutants in combined sewer flows and in combined sewer overflows.

Collectively, these studies provide much information on the source, occurrence, and fate of priority toxic pollutants in sewerage systems and in POTWs. This 30-day study serves to fill the informational void regarding the long-term variability of priority toxic pollutants in POTWs.

PURPOSE

The purposes of the 30-day study are: 1) to compare the variability of POTW influent priority toxic pollutant concentrations for a six-day and 30-day sampling episode; 2) to document the amount of priority toxic pollutants discharged to a POTW before full implementation of a local pretreatment program; 3) to evaluate the performance of POTW processes with respect to treatment of priority toxic pollutants; and 4) to document the fate of priority pollutants in a POTW.

SCOPE OF WORK

This study involved five major tasks:

1. selecting a representative POTW to sample;
2. sampling various wastewater streams at the selected POTW for 30 consecutive days;

3. analyzing the collected samples for priority toxic pollutants and for specified conventional and non-conventional pollutants;

4. inputing the sample analytical results to a computerized data base; and

5. evaluating the data and preparing a final report.

SECTION 3

POTW SELECTION AND DESCRIPTION

POTW SELECTION

Criteria used to select the POTW for the 30-day study were similar to those used in selecting the 50 POTWs for EPA's "Fate of Priority Toxic Pollutants in POTWs" study. Selection was based on:

- type of treatment process;
- size of the treatment plant;
- amount and type of industrial wastewater contribution;
- efficiency of the treatment plant;
- flow in relation to design capacity; and
- geographical location.

Another consideration in selecting the POTW for the 30-day study was that it be one of the POTWs sampled during the 50 POTW study; data resulting from the six-day sampling episode for the 50 POTW study could then be combined with data obtained from the 30-day study to provide an expanded data base for the variability analysis. The POTW selected had to be operating under the same conditions when the 30-day study was initiated as it was during the sampling episode for the 50 POTW study.

The Moccasin Bend Wastewater Treatement Plant (MBWWTP) in Chattanooga, Tennessee satisfied all selection criteria and was chosen for the 30-day study. The MBWWTP receives a substantial and diversified industrial flow; employs the activated sludge treatment process, one of the most common biological treatment processes currently used at POTWs; operates at a high BOD_5 and TSS removal efficiency; and has a high actual flow as a percentage of design capacity. In addition, samples could easily be shipped from the MBWWTP to the laboratory daily.

POTW DESCRIPTION

The Moccasin Bend Wastewater Treatment Plant (MBWWTP) is a 42 mgd (average design flow) conventional activated sludge treatment plant that treats an average dry weather flow of 42 mgd. Approximately 50 percent of the dry weather flow, 65 percent of the biochemical oxygen demand (BOD_5), and 75 percent of the chemical oxygen demand (COD) originates in the industrial sector.[1]

Industries in 21 of the 37 primary industrial categories (see Table 1) identified for regulatory review by the EPA discharge to Chattanooga's municipal sewerage system (133 permitted industrial dischargers with 174 outfalls). Table 2 lists the standard industrial classification (SIC) codes for the indus-

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[1] Information provided by MBWWTP personnel.

TABLE 1. PRIMARY INDUSTRIAL CATEGORIES IDENTIFIED FOR REGULATORY REVIEW BY EPA+

Adhesives and Sealants
Aluminum Forming
Auto and Other Laundries *
Battery Manufacturing
Coal Mining
Coil Coating
Copper Forming *
Electrical and Electronic Components *
Explosives Manufacturing
Foundries *
Gum and Wood Chemicals
Ink Formulating
Inorganic Chemicals Manufacturing *
Iron and Steel Manufacturing *
Leather Tanning and Finishing *
Metal Finishing*[1]
Nonferrous Metals Manufacturing *
Nonferrous Metal Forming*
Ore Mining and Dressing
Organic/Plastics*[2]
Paint Formulation *
Paving and Roofing Materials
Pesticides
Petroleum Refining *
Pharmaceutical Manufacturing*
Photographic Equipment and Supplies
Plastics Processing
Plastics Molding and Forming
Porcelain Enameling *
Printing and Publishing *
Pulp, Paper, and Paperboard*
Rubber Manufacturing*
Shipbuilding
Soap and Detergent Manufacturing *
Steam Electric Power Plants
Textile Mills *
Timber Products Processing *

+ As of August 7, 1981
* Industries in this category discharge to the MBWWTP
[1] The Electroplating and the Mechanical Products Categories have been combined under the Metal Finishing Category.
[2] The Organic Chemicals and the Plastics and Synthetics Categories have been combined under the Organic/Plastics Category.

TABLE 2. SIC CODES FOR INDUSTRIAL DISCHARGERS TO THE MBWWTP

SIC CODE*	SIC DESCRIPTION
2013(1)	Sausages & other prepared meat products
2016(2)	Poultry dressing plants
2026(3)	Fluid milk
2037(1)	Frozen fruits, fruit juices and vegetables
2041(2)	Flour and other grain mill products
2051(3)	Bread and other bakery products, except cookies and crackers
2052(3)	Cookies and crackers
2086(2)	Bottled and canned soft drinks and carbonated waters
2087(1)	Flavoring extracts and flavoring syrups, not elsewhere classified
2251(1)	Women's full-length and knee-length hosiery
2252(4)	Hosiery, except women's full-length and knee-length hosiery
2253(1)	Knit outerwear mills
2254(1)	Knit underwear mills
2258(1)	Warp knit fabric mills
2261(2)	Finishers of broad woven fabrics of cotton
2262(3)	Finishers of broad woven fabrics of man-made fiber and silk
2269(2)	Finishers of textiles, not elsewhere classified
2272(2)	Tufted carpets and rugs
2281(3)	Yarn spinning mills: cotton, man-made fibers and silk
2491(1)	Wood preserving
2611(1)	Pulp mills
2631(2)	Paperboard mills
2653(2)	Corrugated and solid fiber boxes
2751(1)	Commercial printing, letterpress and screen
2752(5)	Commercial printing, lithographic
2813(1)	Industrial gases
2819(1)	Industrial inorganic chemicals, not elsewhere classified
2822(2)	Synthetic rubber (vulcanizable elastomers)
2833(3)	Medicinal chemicals and botonical products
2834(2)	Pharmaceutical preparations
2841(1)	Soap and other detergents, except specialty cleaners
2843(1)	Surface active agents, finishing agents, sulfonated oils
2851(1)	Paints, varnishes, lacquers, enamels, and allied products and assistants
2865(1)	Cyclic (coal tar) crudes, and cyclic intermediates, dyes, and organic pigments (lakes and toners)
2869(3)	Industrial organic chemicals, not elsewhere classified
2952(1)	Asphalt felts and coatings
3069(1)	Fabricated rubber products, not elsewhere classified

* Number in parentheses indicates the number of dischargers that have this SIC code as their primary activity.

TABLE 2 (cont.)

SIC CODE*	SIC DESCRIPTION
3111(1)	Leather tanning and finishing
3199(1)	Leather goods, not elsewhere classified
3221(2)	Glass containers
3264(4)	Porcelain electrical supplies
3312(1)	Blast furnaces (including coke ovens), steel works and rolling mills
3321(8)	Gray iron foundries
3429(1)	Hardware, not elsewhere classified
3433(1)	Heating equipment, except electrical and warm air furnaces
3443(13)	Fabricated plate works (boiler shops)
3462(1)	Iron and steel forgings
3469(1)	Metal stampings, not elsewhere classified
3471(6)	Electroplating, plating, polishing, anodizing and coloring
3494(1)	Valves and pipe fitting, except plumbers brass goods
3496(1)	Miscellaneous fabricated wire products
3523(4)	Farm machinery and equipment
3531(1)	Construction machinery and equipment
3552(1)	Textile machinery
3581(2)	Automatic merchandising machines
3631(1)	Household cooking equipment
3634(1)	Electric housewares and fans
3639(1)	Household appliances, not elsewhere classified
3662(1)	Radios and television transmitting, signaling, and detection equipment
3713(1)	Trucks and bus bodies
3911(1)	Jewelry, precious metal
3949(3)	Sporting and athletic goods, not elsewhere classified
4011(2)	Railroads, line-haul operating
4013(1)	Switching and terminal establishments
4231(1)	Terminal and joint terminal maintenance facilities for motor freight transportation
4941(1)	Water supply
4961(1)	Steam supply
5082(1)	Construction and mining machinery and equipment
5085(1)	Industrial supplies
5144(1)	Poultry and poultry products
5161(2)	Chemicals and allied products
7211(1)	Power laundries, family and commercial
7213(5)	Linen supply
7214(1)	Diaper service
7218(1)	Industrial launderers

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* Number in parentheses indicates the number of dischargers that have this SIC code as their primary activity.

TABLE 2 (cont.)

SIC CODE*	SIC DESCRIPTION
7391(1)	Research and development laboratories
7395(7)	Photofinishing laboratories
7513(1)	Truck rental and leasing, without drivers
7538(1)	General automotive repair shops
7542(9)	Car washes
7694(1)	Armature rewinding shops
7699(1)	Repair shops and related services, not elsewhere classified

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* Number in parentheses indicates the number of dischargers that have this SIC code as their primary activity.

trial dischargers to the MBWWTP. Seasonal variations in the flow and organic loadings for this plant are not significant.

The MBWWTP is served by a collection system that was substantially complete by 1930. Approximately seven percent of the system consists of combined sewers, with the oldest dating back to the turn of the century. Many of these original conduits have been replaced or rehabilitated. The original larger conduits were egg-shaped brick sewers; smaller ones were made of clay pipe with mortar joints. Beginning in 1969, many of the brick sewers were lined with pneumatically applied concrete to revitalize and seal the deteriorating lines and reduce extraneous water that entered the system as infiltration.

Until the interceptor system and pumping stations went into operation in 1959, all sewage was discharged directly (without treatment) to the Tennessee River and South Chicamauga Creek. In 1962, the primary plant (grit chamber, primary settling tanks, anaerobic digesters, filter building) went on line. In 1972, the secondary treatment portion of the existing system began operation.

Wastewater flowing into the treatment plant is initially screened (bar screens), pumped to a grit chamber, and passed through a comminutor. Primary sedimentation, diffused aeration, secondary clarification, and chlorination follow. Wastewater is then discharged to the Tennessee River. Because of excessive inflow during wet weather conditions (attributable in part to the remaining combined sewers), a bypass around the treatment plant can be utilized if flows are in excess of peak design flow. The plant has magnetic influent and waste activated sludge flow meters and a Venturi effluent flow meter.

Primary sludge is anaerobically digested, vacuum filtered, and trucked to an approved landfill. When the plant was upgraded in 1971, a wet-air oxidation unit was constructed to treat the secondary waste activated sludge, but it is not currently operating. The waste activated sludge is presently discharged directly to the Tennessee River under an interim National Pollutant Discharge Elimination System (NPDES) permit. Digester decant, vacuum filter filtrate, and a scum return line are recirculated to the plant directly upstream of the bar screens. Figure 1 presents a flow schematic of the current treatment process; Table 3 lists the treatment processes' design specifications.

The MBWWTP authority recently initiated an $83 million facility expansion, scheduled for completion in January 1984. As part of this expansion, the existing aeration tanks will be converted to a pure oxygen system; the primary and secondary sedimentation capacity will be increased; and sludge treatment processes will be upgraded.

The pretreatment program in Chattanooga has evolved over the years beginning in January 1977. At that time, the City Commission adopted an ordinance that established pretreatment standards for 32 different pollutants. These standards were based on effluent limitations for direct dischargers as imposed by the State of Tennessee under its own permit system.

The MBWWTP staff later evaluated the standards with respect to the requirements of Section 307 of the Clean Water Act which prohibit the discharge of pollutants that are incompatible with POTWs. As a result of this evaluation,

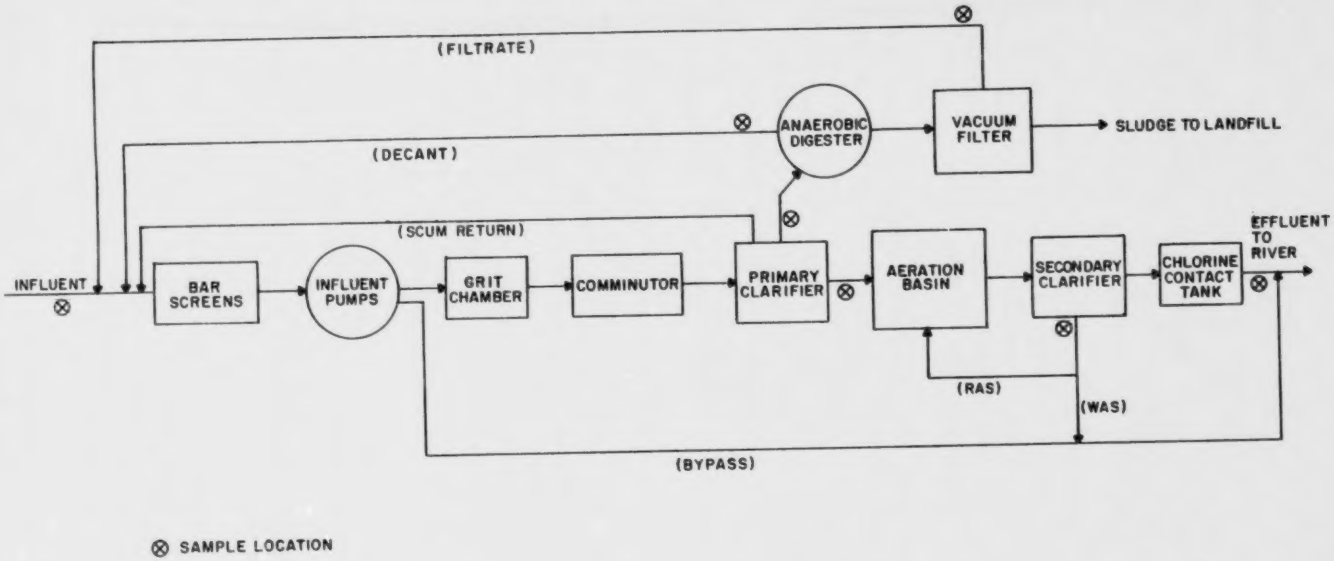
(FILTRATE)
(DECANT)
(SCUM RETURN)
INFLUENT
BAR SCREENS
INFLUENT PUMPS
GRIT CHAMBER
COMMINUTOR
PRIMARY CLARIFIER
ANAEROBIC DIGESTER
VACUUM FILTER
SLUDGE TO LANDFILL
AERATION BASIN
SECONDARY CLARIFIER
CHLORINE CONTACT TANK
EFFLUENT TO RIVER
(RAS)
(WAS)
(BYPASS)
⊗ SAMPLE LOCATION

FIGURE 1. FLOW SCHEMATIC OF THE MOCCASIN BEND WASTEWATER TREATMENT PLANT

TABLE 3. TREATMENT PROCESS SPECIFICATIONS

I. Bar Screens

Mechanically cleaned
Bar screen opening: one inch

II. Raw Waste Pumping Station

3 pumps, each rated at 40 mgd
Average design flow: 40 mgd
Peak flow: 120 mgd

III. Grit Removal

Detritor unit (or constant level sedimentation tank) rated at 60 mgd
Aerated grit chamber rated at 90 mgd (not currently operational)
Grit chamber dimensions: 36-feet x 24-feet x 13.5-feet deep

IV. Comminutors

5 comminutors, each rated at 20 mgd
Solids size: 3/8 inch maximum

V. Primary Settling Tanks

4 primary settling tanks
Average design surface settling rate: 1,600 gpd/sf
Average design detention time: 1 hour (total)
Average design BOD$_5$ removal: 10 percent
Average design TSS removal: 60 percent
Average design suspended solids removal: 60,000 pounds/day (total)
Settling tank dimensions, (each): 131-feet x 50-feet x 9-feet deep
Total volume: 235,800 cf

VI. Aeration Basin

4 aeration tanks with 4 passes each
MLSS = 2,500 mg/ℓ
6 blowers, each rated at 500 HP, 12,800 cfm
5 blowers continuously operating, 1 standby
Average detention time: 5 hours (total)
3 variable speed return sludge pumps, each 1,825 to 3,650 gpm
Aeration tank dimensions (each tank): 120-feet x 237-feet x 15-feet deep

TABLE 3 (cont.)

VII. Secondary Clarifiers

8 secondary settling tanks
Average design surface settling rate = 750 gpd/sf
Detention time = 2.5 hours (total)
Settling tank dimensions (each): 175-feet x 40-feet x 10.5-feet deep
Total volume: 588,000 cf

VIII. Disinfection

2 chlorine contact tanks, each with 3 passes
Average detention time = 29 minutes (total) at 42 mgd
Contact tank dimensions (each): 140-feet x 35-feet x 11.5-feet deep

IX. Anaerobic Digester

6 tanks - 3 primary digesters/3 secondary digesters
Average detention time = 30 days (total)
Methane gas production = 15 cf/lb of volatile matter = 300,000 cf/day
Digester dimensions: 65 feet in diameter x 20 feet deep

X. Sludge Dewatering

4 vacuum filters
Design capacity = 3.5 lb/sf/hour
Quantity of sludge produced: 408 dry tons/year (total)
Approximately 220 lb/day of polymer is used
Filter dimensions (each): 8-feet diameter x 10-feet long

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two important criteria were developed: critical protection concentrations for a particular pollutant entering the treatment plant and the concentration of a pollutant discharged to the sewerage system.

By comparing the influent concentration to the critical protection criteria mentioned above, the MBWWTP staff is able to routinely identify if any pollutants are close to impacting the treatment process. The MBWWTP industrial pretreatment staff monitors industrial discharges annually and requires periodic self monitoring reports which vary from weekly to annually depending on the discharger. A current inventory of the industrial dischargers and the characteristics of their waste stream are maintained by means of a computer program. The monitoring program, in conjunction with the established computer pollutant mass inventory, provides the MBWWTP staff with a current mass balance for the collection system. Once a pollutant is determined to be approaching the critical influent concentration at the treatment plant, the staff evaluates the sources of the pollutant and initiates controls for the discharge of the pollutant to the collection system.

The City imposed two requirements when the pretreatment standard was established in 1977. The first requirement was to regulate all pollutants, by January 1, 1981, that exceed the critical influent concentrations. Table 4 summarizes the current maximum allowable pollutant concentration in the influent. Under the second requirement, industrial dischargers were to meet the EPA and State approved limitations listed in Table 5 by January 1, 1983. In addition to these limitations, the discharge of the following pollutants to the sewerage system was prohibited:

(1) Pollutants that create a fire or explosion hazard in the POTW;

(2) Pollutants that cause corrosive structural damage to the POTW, but in no case discharges with a pH lower than 5.0 or higher than 10.5;

(3) Solid or viscous pollutants in amounts that cause obstruction to the flow of the sewers, or other interference with the operation of or that cause injury to the POTW, including waxy or other materials that tend to coat and close a sewer line or other appurtenances thereto;

(4) Any pollutant, including oxygen demanding pollutants (e.g., BOD_5), released in a discharge of such volume or strength as to cause interference in the POTW;

(5) Heat in amounts that inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the treatment works influent exceeds 40° Centigrade (104° Fahrenheit). Unless a higher temperature is allowed in the user's wastewater discharge permit, no user shall discharge into any sewer line or other appurtenane of the POTW wastewater with a temperature exceeding 65.5° Centigrade (150° Fahrenheit).

TABLE 4. MAXIMUM ALLOWABLE INFLUENT CONCENTRATIONS FOR MBWWTP[+]

Criteria to Protect the Treatment Plant Influent:

The Superintendent shall monitor the treatment works influent for each parameter in the following table. The Industrial Users shall be subject to the reporting and monitoring requirements set forth in Section 32-48 and Section 32-49 as to these parameters. In the event that the influent at the treatment works reaches or exceeds the levels established by said table, the Superintendent shall initiate technical studies to determine the cause of the influent violation, and shall recommend to the Board such remedial measures as are necessary, including but not limited to recommending the establishment of new or revised pretreatment levels for these parameters. The Superintendent shall also recommend changes to any of these critera in the event the POTW effluent standards are changed or in the event that there are changes in any appliable law or regulation affecting same or in the event changes are needed for more effective operation of the POTW.

Parameter	Maximum Concentration mg/1(24 Hour Flow-Proportional Composite Sample)	Maximum Instantaneous Concentration mg/1(Grab Sample)
Antimony (Sb)	1.0	2.0
Arsenic (As)	0.05	0.1
Cadmium (Cd)	0.01	0.02
Chromium-total (Cr	1.7	3.4
Chromium-Hexavalent (Cr+6)	0.5	1.0
Copper (Cu)	0.40	0.8
Cyanide (CN)	0.05	0.1
Iron (Fe)	10.0	20.0
Lead (Pb)	0.10	0.2
Manganese (Mn)	0.50	1.0
Mercury (Hg)	0.05	0.1
Nickel (Ni)	0.75	1.5
Phenols	1.00	2.0
Selenium (Se)	0.01	0.02
Silver (Ag)	0.05	0.1
Zinc (Zn)	2.00	4.0
Total Dissolved Solids	5000	-
Biochemical Oxygen Demand	500	-
Suspended Solids	*	-
Ammonia Nitrogen	27	44
pH	-	6-9 (std.units)

[+] From City of Chattanooga Ordinance No. 7129 (Amended December 1978) pp. 17-18.

* Not to exceed the design capacity of treatment works.

TABLE 5. LIMITATIONS ON WASTEWATER DISCHARGED TO THE MBWWTP SEWERAGE SYSTEM

+Limitations on Wastewater Strength: No person or user shall discharge wastewater in excess of the concentration set forth in the table below unless: (1) an exception has been granted the user under the provisions of Section 32-47; or (2) the wastewater discharge permit of the user provides as a special permit condition a higher interim concentration level in conjunction with a requirement that the user construct a pretreatment facility or institute changes in operation and maintenance procedures to reduce the concentration of pollutants to levels not exceeding the standards set forth in the table within a fixed period of time.

Parameter	Maximum Concentration mg/1(24 Hour Flow-Proportional Composite Sample)	Maximum Instantaneous Concentration mg/1(Grab Sample)
Biochemical Oxygen Demand	*	-
Chemical Oxygen Demand	*	-
Suspended Soilids	*	-
Arsenic (As)	1.0	2.0
Cadmium (Cd)	1.0	2.0
Chromium-Total (Cr)	5.0	10.0
Chromium-Hexavalent (Cr+6)	0.05	0.10
Copper (Cu)	5.0	10.0
Cyanide (CN)	2.0	4.0
Lead (Pb)	1.5	3.0
Mercury (Hg)	0.1	0.2
Nickel (Ni)	5.0	10.0
Selenium (Se)	1.0	2.0
Silver (Ag)	1.0	2.0
Zinc (Zn)	5.0	10.0
Oil & Grease (Petroleum and/or Mineral)	100.0	200.0

+ From: City of Chattanooga Ordinance No. 7129 (Amended December 1978) p.16.

* Limited by design capacity

SECTION 4

SAMPLING PROGRAM

The 36-day data base evaluated during this study consists of six, six-day sampling episodes. As part of EPA's 50 POTW study, the first of these episodes was conducted from 0800 hours on September 15, 1980, through 0800 hours on September 21, 1980. The remaining five episodes were conducted from 0800 hours on February 10, 1981, through 0800 hours on March 12, 1981. The influent to the MBWWTP, the primary effluent, treated effluent [after chlorination and before the waste activated sludge (WAS) is combined with the treated effluent], primary sludge, and waste activated sludge waste streams were sampled each day. Digester decant, vacuum filter filtrate, and tap water were each sampled once per sampling episode, or six times over the entire program. The flow schematic in Figure 1 depicts the treatment processes and sample locations. Sample frequencies, sampling techniques and sample locations were identical for the six-day and for the 30-day efforts except where this report documents protocol modifications.

SAMPLE LOCATIONS

Influent

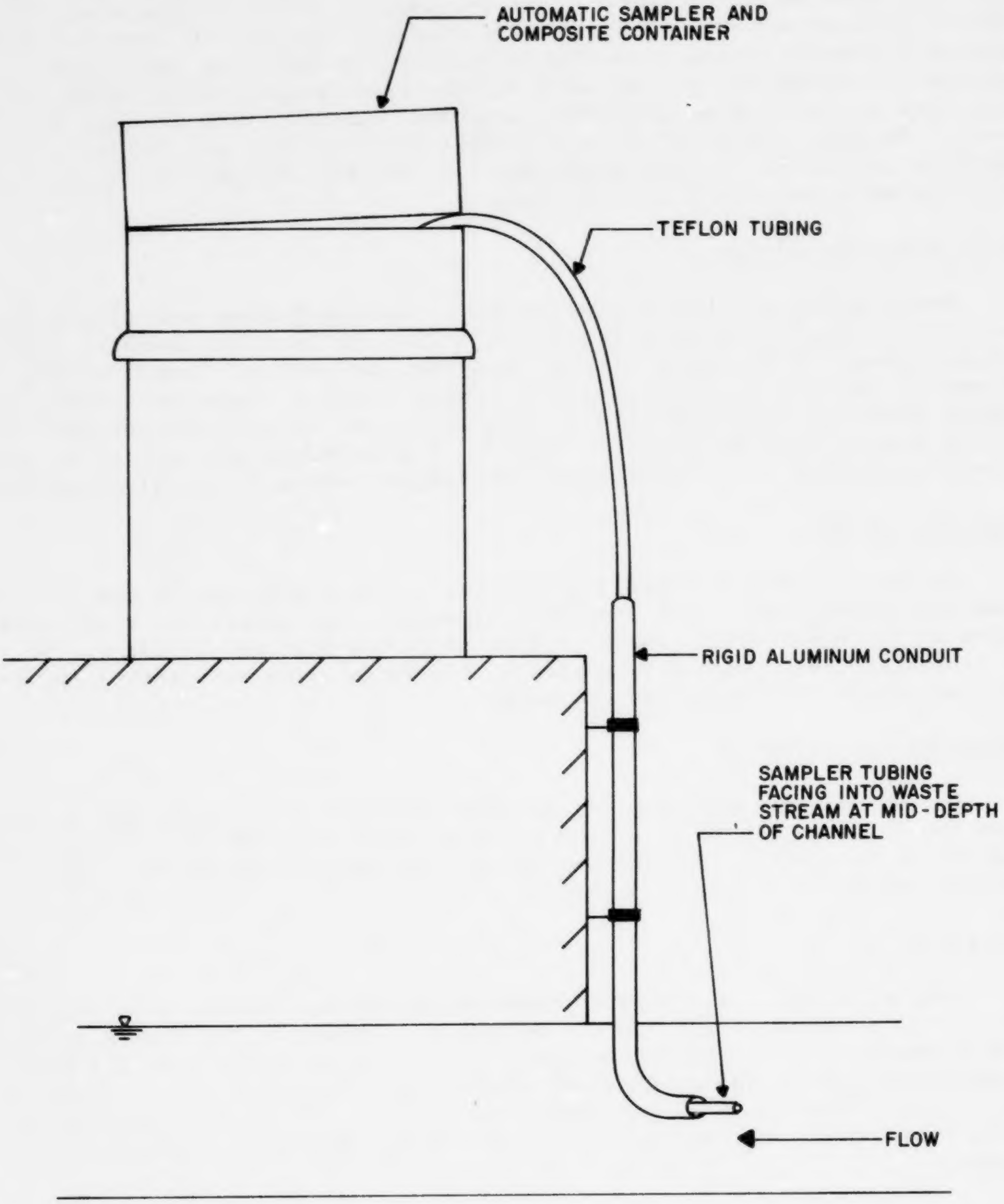
The total influent waste stream was sampled at a manhole situated immediately upstream of the POTW's digester decant and vacuum filter filtrate return lines. The invert of the sewer is approximately 35 feet below grade at this location and the sewer is steep, providing a well-mixed, turbulent flow. Because of the depth of the influent manhole, automatic composite sampling was not possible at this location. Samples were collected and composited manually every hour during the 30-day study. Samples were composited manually every two hours during the initial 6-day study. During wet weather conditions, part of the total influent waste stream is bypassed directly to the Tennessee River.

Primary Effluent

Overflow from the four primary settling tanks was sampled from a rectangular concrete channel common to all four settling tanks, accessible just upstream from the plant's aeration tank. The samples collected represent combined, homogenized primary effluent samples. A five-foot length of rigid conduit was used to secure the automatic sampler tubing so that it faced into the waste stream. Figure 2 depicts a typical automatic sampler arrangement.

Treated Effluent

The secondary effluent is discharged from two identical parallel secondary clarifier networks into two parallel chlorine contact tanks. Effluents from both chlorination units were sampled by automatic samplers. At the end of each 24-hour period, the two 2.5-gallon composite samples were blended to produce a single 5-gallon effluent composite. Rigid conduit was used to secure the sampler tubing so that samples were drawn from the chlorine contact tanks' effluents.


AUTOMATIC SAMPLER AND COMPOSITE CONTAINER
TEFLON TUBING
RIGID ALUMINUM CONDUIT
SAMPLER TUBING FACING INTO WASTE STREAM AT MID-DEPTH OF CHANNEL
FLOW

TYPICAL AUTOMATIC SAMPLER SET-UP

Primary Sludge

Primary sludge is collected in a wet-well, then pumped to the anaerobic digesters once per shift (three times per day) at a rate of approximately 180,000 gallons per day. The amount of sludge pumped to the digesters and the pumping intervals varies according to the plant's operating conditions. Because the sludge has a high total solids concentration and is pumped to the digesters at varied time intervals, automatic samplers were not used at this point. Instead, three liters were collected three times per day and were manually composited. Grab samples for cyanide, oil and grease, total phenol and VOAs were also taken at this time.

Waste Activated Sludge

Waste activated sludge is withdrawn continuously from each of the two parallel secondary clarifier units that follow the aeration chamber. The low solids content of the waste stream (less than two percent) permitted the use of automatic samplers at both wet-wells. The 2.5-gallon composite samples collected from each clarifier were blended at the end of each 24-hour period to form a single 5-gallon composite sample. Rigid conduit was secured in the wet-wells at both locations to hold the sampler tubing in a well-mixed zone.

Digester Decant

During each six-day sampling episode, a single grab sample was collected from the decant line of the anaerobic digester. The sample was drawn from a valve on the decant line, which is located in the digester building. To ensure as representative a sample as possible, the decant line was flushed for several minutes before the sample was collected.

Vacuum Filter Filtrate

During each six-day sampling episode, a single grab sample was collected from the filtrate return line. Once the filtrate line had been flushed thoroughly, an intermediate vessel was filled with sample from which a sample for each pollutant fraction was obtained.

Tap Water

Samples of the potable water supplied to the Chattanooga area were procured from a faucet located in the headworks building at the MBWWTP to determine background levels of contaminants. Once the tap water line had been flushed thoroughly, the appropriate sample containers were filled directly from the faucet. These samples were representative of the chlorinated domestic water supplied to the city of Chattanooga by the Tennessee American Water Company.

SAMPLING SCHEDULE AND PROCEDURES

Sample periods for the six-day and thirty-day studies began at 0800 hours each morning and proceeded until 0800 hours the next morning. Automatic samplers were used wherever the sampling conditions allowed. All composite samples, whether procured manually or automatically, represent time-composited (constant time-constant volume) samples. At the completion of each sample period, composite samples were homogenized, then separated into the following fractions: priority toxic pollutant extractables (acids, base/neutrals, and pesticides); metals; chemical oxygen demand (COD), total organic carbon (TOC), and ammonia as nitrogen (NH_3-N) fraction; and biochemical oxygen demand (BOD5) and residue fraction. Volatile organic analytes (VOAs), cyanide (CN), oil and grease (O&G) and total phenol fractions were all collected as grab samples every four hours and preserved immediately because of the volatility and/or instability of these compounds. These grab samples were composited in the laboratory prior to analysis. All sample fractions were forwarded to the appropriate laboratories on a daily basis.

Influent samples were taken from the incoming waste stream in a stainless steel bucket attached to a 40-foot rope. The bucket was routinely rinsed in the influent waste stream before samples were collected. Composite aliquots of 940 ml were grabbed every two hours during the six-day study; aliquots of 470 ml were taken every hour during the 30-day study. Composite aliquots were poured from the stainless steel bucket into a calibrated pyrex beaker, then into a three-gallon composite jug, which was iced constantly. Grab samples for VOAs, cyanide, O&G, and total phenol were collected every four hours (1200, 1600, 2000, 2400, 0400, and 0800).

Automatically composited samples (extractable organic compounds, metals, BOD5, COD, TOC, residue, and ammonia) were collected daily at the primary effluent location. An ISCO model 1590 sampler was programmed to draw 150 ml every 20 minutes from mid-depth of the concrete channel. Composite samples were collected in a 2.5-gallon glass container, which was iced constantly at the sample location. Grab samples for VOAs, cyanide, O&G and total phenol were collected according to the same sample schedule used at the influent location. A one liter pyrex beaker attached to a sampling pole was used to collect grab samples. The beaker was rinsed thoroughly in the waste stream before being filled with sample.

At both the treated effluent and waste activated sludge locations, two ISCO model 1590 samplers were programmed to draw 135 ml each every 20 minutes from the respective chlorine contact tanks and sludge wet wells. At the end of the sampling period, the composites were blended to form representative five-gallon treated effluent and waste activated sludge composite samples. Grab samples were collected in the same manner as those at the primary effluent site. Grab samples were drawn at 1200, 2000, and 0400 hours from the east chlorine contact tanks and sludge wet well on day one; samples were drawn from the west chlorine tank and wet well at 1600, 2400 and 0800 on day one. This grab sampling schedule was alternated on a daily basis throughout the 30-day period.

Samples at the primary sludge location were composited manually. Composite aliquots of two liters were grabbed three times daily, coincident with grab samples for VOAs, cyanide, oil and grease, and total phenol. Samples were collected from the sludge wet well via a pyrex beaker attached to a telescopic sampling pole and emptied into a 2.5-gallon glass jug, which was continuously iced. The sludge varied greatly in solids consistency and color, not only from day to day, but also from one grab sample to the next. Samples were taken to represent as homogeneous a color and consistency as possible. The samples were collected according to the sludge pumping schedule, usually at 0930, 1530, and 0100 hours.

The digester decant, vacuum filter filtrate and tap water locations were each sampled once per six day period. Samples were normally taken on the third day of each episode. If the return lines were not discharging on the third day of an episode, then the samples were collected on the next available day.

Grab samples were also collected during sampling period 16 (February 25, 1981) at the influent, primary effluent, treated effluent, and tap water locations and were analyzed for asbestos fibers. These samples were taken in accordance with EPA-Sampling Protocol for Asbestos Self-Sampling. The analytical results are presented in Appendix A.

Influent, effluent and WAS flow readings, as well as in-situ measurements for pH and temperature were taken every four hours, coincident with the grab sampling schedule. Table 6 lists the daily temperature and pH readings; Table 7 presents a summary of the flow data. The influent flow meter measures the volume of wastewater pumped to the POTW itself, excluding any wastewater that is bypassed and including the recycle lines. This meter was calibrated before the start of the sampling episode. The effluent flow meter records the combined secondary effluent, bypass, and half the WAS flow that is discharged to the Tennessee River. The remaining WAS is discharged downstream of the effluent flow meter. Plant personnel indicated that the effluent flow meter has experienced some calibration problems in the past. Therefore, effluent flow was calculated by subtracting the primary sludge and WAS flows from the influent flow. The bypass flows are the only volumes based upon the effluent meter. Bypass flow was determined by subtracting the influent and half the WAS flow readings from the effluent readings. Primary sludge volumes were determined by the number of pump strokes recorded daily. Decant flows were calculated by computing the change in elevation in the anaerobic digesters; filtrate flows were estimated by determining the average filtrate volume per hour of operation, multiplied by the number of hours of operation.

Table 8 contains the sample schedule and the pertinent sampling techniques for the 30-day study.

QUALITY ASSURANCE/QUALITY CONTROL SAMPLING PROGRAM

During both the six-day study and the 30-day study, quality assurance/quality control (QA/QC) samples were collected and analyzed. Blank sample analyses, duplicate wastewater and sludge analyses, and spiked wastewater and sludge analyses were performed. The blank samples served to identify field and/or laboratory cross contamination while the duplicate and spike analyses facilitate precision and accuracy measurements of the analytical results. Section 5 presents a discussion on the QA/QC program and details the results observed; additional information is provided in Appendix B. The field procedures for this program are detailed below.

Ultrapure deionized water was pumped through each of the automatic samplers so that all wetted surfaces in the samplers (silicon and teflon tubing) came in contact with the "sampler blank." Four liters were collected and forwarded to the appropriate laboratory for extractable priority toxic pollutant background information. The sampler tubing was changed every 72 hours to minimize any possible cross contamination. Composite jugs were changed at the end of

TABLE 6. IN-SITU MEASUREMENTS

DATE	PERIOD	PRECIPITATION (INCHES)	AIR TEMP (°C)		INFLUENT		PRIMARY EFF.		TREATED EFF.		PRIMARY SLUDGE		WASTE ACTIVATED SL.	
			MINIMUM	MAXIMUM	pH	AVE.TEMP °C	pH	AVE.TEMP °C	pH	AVE.TEMP °C	pH	AVE.TEMP °C	pH	AVE.TEMP °C
SEPT. 15, 1980	1	-	28	32	9.5		8.8		7.4		6.2		6.9	--
16	2	-	27	36	8.4		8.3		6.8		5.9		6.3	--
17	3	trace	18	27	9.1		9.0		-		7.0		7.5	--
18	4	-	19	32	8.9		8.9		8.0		7.2		7.4	--
19	5	trace	23	32	7.6		7.8		8.2		5.9		7.3	--
20	6	trace	22	29	7.2		7.0		7.3		6.3		6.9	--
FEB. 10, 1981	1	1.94	3	12	8.3	13.5	8.3	13.5	7.5	14.5	7.1	13.5	7.2	14
11	2	0.17	-9	13	8.8	13	8.7	13	7.5	12	8.2	12	7.4	12
12	3	-	-13	31	9.0	14	8.9	13.5	7.5	12	8.1	11.5	7.3	13
13	4	-	-9	7	8.7	15.5	8.5	16	7.3	14.5	8.5	13.5	7.3	14.5
14	5	-	-3	13	8.5	16	8.2	16	7.0	16.5	7.9	16	7.1	16
15	6	trace	-3	17	7.4	15	7.6	15.5	6.8	15	7.4	15	6.7	15.5
16	7	trace	8	18	8.7	17	8.7	17	6.9	16.5	7.0	16.5	6.6	16.5
17	8	0.93	10	14	8.0	16	8.1	16.5	7.2	16.5	7.7	16.5	7.1	17
18	9	0.44	12	14	7.8	15.5	8.2	16	7.2	16.5	7.4	15	7.0	16.5
19	10	0.07	12	19	8.3	15	8.2	15.5	7.2	16	7.6	15	7.3	15.5
20	11	-	6	19	8.5	15	8.5	16	7.5	16	8.2	14.5	7.2	16
21	12	-	1	21	7.3	15	7.4	15	7.2	16	7.3	15.5	7.1	15.5
22	13	0.11	6	18	7.8	14.5	7.9	14.5	7.3	14.5	7.5	15	7.2	15
23	14	-	5	14	8.8	17	8.9	17	7.6	16.5	8.3	15.5	7.5	16.5
24	15	-	-1	16	8.6	19	8.5	18.5	7.5	18.5	7.9	17	7.5	18
25	16	-	-2	21	9.0	18.5	8.9	19	7.5	19	8.0	18.5	7.6	19
26	17	-	3	24	8.8	19.5	8.7	20	7.6	19.5	7.5	19.5	7.8	19
27	18	-	4	23	8.5	19	8.4	18.5	7.5	19	7.5	18.5	7.6	19
28	19	trace	-2	22	8.7	17	8.4	18	7.3	18	7.6	18	7.5	18
MAR. 1, 1981	20	0.05	8	16	8.3	16	8.6	16.5	7.4	17	7.5	17.5	7.4	17.5
2	21	-	4	14	8.5	18.5	8.6	20	7.7	19	7.2	19	7.5	19
3	22	-	0	12	8.8	21	8.7	20.5	7.8	20.5	7.7	21	7.5	20
4	23	0.96	5	9	8.2	17.5	8.2	17.5	7.8	19	7.6	19	7.6	19
5	24	0.10	6	14	9.1	17	9.0	17	7.9	16.5	7.4	17	7.7	16.5
6	25	-	3	12	8.6	18	8.4	18.5	7.7	18	7.7	17.5	7.4	18
7	26	-	2	9	7.8	17	7.7	16.5	7.6	17.5	7.1	17.5	7.5	17.5
8	27	-	1	12	7.8	16.5	7.6	16.5	7.3	16.5	7.2	17	7.1	16.5
9	28	-	-2	14	8.6	19	8.5	19	7.4	18	7.5	18.5	7.4	18
10	29	-	-2	16	9.3	19.5	9.1	21	7.8	20	7.5	17.5	7.6	20
11	30	-	2	16	8.8	19.5	8.6	21	7.8	19.5	7.8	20	7.6	19.5
30-DAY AVERAGE						16.8		17.1		17.0		16.6		16.9

TABLE 7. DAILY FLOWS FOR THE SIX-DAY AND THIRTY-DAY STUDIES

Date	Period	Total Influent Flow (MGD)	Influent to WWTP (MGD)	Bypass (MGD)	Primary Influent (MGD)	Vacuum Filter Filtrate (GPD)	Digester Decant (GPD)	Primary Sludge (GPD)	Primary Effluent (MGD)	Secondary Influent (MGD)	Return Activated Sludge (MGD)	Waste Activated Sludge (MGD)	Secondary Effluent (MGD)
Sept. 15	1	45	45	-	44.87	22,140	105,000	188,100	44.68	-	19.6	4.32	
16	2	36	36	-	35.87	22,140	105,000	188,100	35.68	-	19.6	4.32	
17	3	47	47	-	46.87	22,140	105,000	188,100	46.68	-	19.6	4.32	
18	4	48	48	-	47.87	22,140	105,000	188,100	47.68	-	19.6	4.32	
19	5	42	42	-	41.87	22,140	105,000	188,100	41.68	-	19.6	4.32	
20	6	37	37	-	36.87	22,140	105,000	188,100	36.68	-	19.6	4.32	
Six Day Average		42.5	42.5	-	42.37*	22,140*	105,000*	188,100	42.18	51.08*	19.6	4.32	38.12*
Feb. 10	1	102.38	44.24	58.14	44.35	29,400	85,100	125,400	44.22	52.86	19.6	4.32	39.90
11	2	91.59	48.58	43.01	48.61	28,800	-	83,600	48.52	57.16	19.6	4.32	44.20
12	3	69.97	50.35	19.62	50.42	28,700	45,700	125,400	50.29	58.93	19.6	4.32	45.97
13	4	40.85	40.85	-	40.90	32,300	20,800	188,100	40.71	49.35	19.6	4.32	36.39
14	5	43.22	43.22	-	43.34	-	118,000	188,100	43.15	51.79	19.6	4.32	38.83
15	6	34.40	34.40	-	34.56	-	160,000	167,200	34.39	43.03	19.6	4.32	30.07
16	7	44.90	44.90	-	45.03	30,900	102,000	185,200	44.84	53.48	19.6	4.29	40.55
17	8	76.33	39.47	38.86	39.64	35,600	131,000	188,100	39.45	48.09	19.6	4.35	35.10
18	9	93.98	52.85	41.13	52.91	30,300	31,100	54,400	52.86	61.50	19.6	4.32	48.54
19	10	93.18	58.23	34.95	58.29	33,000	29,000	73,150	58.22	66.86	19.6	4.32	53.90
20	11	44.38	44.38	-	44.41	33,000	-	96,400	44.40	53.04	19.6	4.32	40.08
21	12	48.97	48.97	-	49.07	-	95,500	112,500	48.96	57.60	19.6	4.32	44.64
22	13	40.75	40.75	-	40.86	-	106,000	114,500	40.74	49.38	19.6	4.32	36.42
23	14	43.26	43.26	-	43.34	32,600	47,700	104,500	43.24	51.88	19.6	4.32	38.92
24	15	42.20	42.20	-	42.36	31,200	129,000	188,100	42.17	50.81	19.6	4.32	37.85
25	16	41.82	41.82	-	41.98	32,900	89,200	188,100	41.79	50.43	19.6	4.32	39.47
26	17	39.04	39.04	-	39.16	32,600	83,000	188,100	38.97	47.61	19.6	4.32	34.65
27	18	36.41	36.41	-	36.56	14,200	135,000	188,100	36.37	45.01	19.6	4.32	32.05
28	19	30.95	30.95	-	31.11	-	164,000	188,100	30.92	39.56	19.6	4.32	26.60
March 1	20	28.95	28.95	-	29.08	-	133,000	188,100	28.89	37.53	19.6	4.32	24.57
2	21	37.34	37.34	-	37.47	30,600	100,000	188,100	37.28	45.92	19.6	4.32	32.96
3	22	38.02	38.02	-	38.15	33,000	100,000	167,200	37.98	46.62	19.6	4.32	33.66
4	23	55.20	55.20	-	55.32	26,400	91,300	125,400	55.19	63.83	19.6	4.32	50.87
5	24	50.59	50.59	-	50.65	33,400	22,800	188,100	50.46	59.10	19.6	4.32	46.14
6	25	41.20	41.20	-	42.89	30,700	664,000	188,100	42.70	51.34	19.6	4.32	38.38
7	26	36.71	36.71	-	36.82	-	112,000	188,100	36.63	45.27	19.6	4.32	32.31
8	27	30.69	30.69	-	30.85	-	156,000	188,100	30.66	39.30	19.6	4.32	26.34
9	28	40.42	40.42	-	40.51	24,300	66,400	131,700	40.38	49.02	19.6	4.32	36.06
10	29	37.20	37.20	-	37.29	27,300	62,300	188,100	37.10	45.74	19.6	4.32	32.78
11	30	38.68	38.68	-	38.80	33,000	83,000	188,100	38.61	47.25	19.6	4.32	34.29
30-Day Average		49.79	42.00	-	42.13	22,140	105,430	162,100	41.97	50.31	19.6	4.32	37.65
36-Day Average		48.58	42.1	-	42.21	22,140	105,430	166,400	42.05	50.45	19.6	4.32	37.73

* Estimated Flows

TABLE 8. SAMPLE SCHEDULE AND SAMPLING TECHNIQUES

Sample Location	Fraction	Preservation	Volume	Sample Container	Sampling Technique	No. of Aliquots Per Composite	Total No. of Samples
Influent	Acid Base/neutral Pesticides	chill	4 liters	glass	manual composite	24[a]	35
	VOA	chill	40 ml	glass	grab-lab composited	6	35
	Metals	HNO_3	1 liter	plastic	manual composite	24[a]	35
	COD/TOC/NH_3	H_2SO_4	500 ml	plastic	manual composite	24[a]	35
	BOD/Residue	chill	500 ml	plastic	manual composite	24[a]	35
	Total Phenol	$H_3PO_4/CuSO_4$	500 ml	amber glass	grab-lab composited	6	35
	Cyanide	NaOH	1 liter	amber plastic	grab-lab composited	6	35
	Oil and Grease	H_2SO_4	500 ml	glass	grab-lab composited	6	35
	Asbestos	$HgCL_2$	1 liter	plastic	grab	1	1
Primary Effluent, Treated Effluent, Waste Activated Sludge	Acid Base/Neutral Pesticides	chill	4 liters[b]	glass	automatic composite	72	36
	VOA	chill[c]	40 ml	glass	grab-lab composited	6	36[d]
	Metals	HNO_3	1 liter	plastic	automatic composite	72	36
	COD/TOC/NH_3-N	H_2SO_4	500 ml	plastic	automatic composite	72	36
	BOD/Residue	chill	500 ml	plastic	automatic composite	72	36
	Total Phenol	$H_3PO4/CuSO_4$	500 ml	amber glass	grab-lab composited	6	36
	Cyanide	NaOH[e]	1 liter	amber plastic	grab-lab composited	6	36
	Oil and Grease	H_2SO_4	500 ml	glass	grab-lab composited	6	36
	Asbestos[f]	$HgCL_2$	1 liter	plastic	grab	1	1
Primary Sludge	Acid Base/neutral Pesticides	chill	2 liters	glass	manual composite	3	36
	VOA	chill	40 ml	glass	grab-lab composited	3	36
	Metals	HNO_3	1 liter	plastic	manual composite	3	36
	COD/TOC/NH_3-N	H_2SO_4	500 ml	plastic	manual composite	3	35
	BOD/Residue	chill	500 ml	plastic	manual composite	3	36
	Total Phenol	$H_3PO_4/CuSO_4$	500 ml	amber glass	grab-lab composited	3	36
	Cyanide	NaOH	1 liter	amber plastic	grab-lab composited	3	36
	Oil and Grease	H_2SO_4	500 ml	glass	grab-lab composited	3	36
	Asbestos	NS	NS	NS	NS	NS	NS

TABLE 8 (cont.)

Sample Location	Fraction	Preservation	Volume	Sample Container	Sampling Technique	No. of Aliquots Per Composite	Total No. of Samples
Digester Decant, Vacuum Filter Filtrate, Tap Water	Acid Base/Neutral Pesticides	chill	4 liters	glass	grab	1	6
	VOA	chill[c]	40 ml	glass	grab	1	6
	Metals	HNO_3	1 liter	plastic	grab	1	6
	COD/TOC/NH_3-N	H_2SO_4	500 ml	plastic	grab	1	6
	BOD/Residue	chill	500 ml	plastic	grab	1	6
	Total Phenol	$H_3PO_4/CuSO_4$	500 ml	amber glass	grab	1	6
	Cyanide	NaOH	1 liter	amber plastic	grab	1	6
	Oil and Grease	H_2SO_4	500 ml	glass	grab	1	6
	Asbestos[g]	$HgCL_2$	1 liter	plastic	grab	1	1

NS Not sampled.
a During the 6-day study, 12 aliquots per composite were collected instead of 24.
b Two liters were collected at the WAS location.
c Treated effluent and tap water samples preserved with sodium thiosulfate.
d Thirty-five samples for the treated effluent location.
e Treated effluent preserved with ascorbic acid.
f Waste activated sludge was not analyzed for asbestos.
g Tap water only analyzed for asbestos.

each 24-hour period, scrubbed thoroughly, and rinsed with methylene chloride prior to reuse. VOA blanks were prepared in the laboratory and then transported to the field. The hermetically sealed blanks were carried to and from the sample locations by the field crews, then forwarded to the appropriate labs for analysis.

Precision and accuracy samples were collected on the first day of each six-day episode. The volumes for the extractable organics and VOA fractions at the treated effluent, primary sludge, and WAS locations were tripled during these periods so that the laboratory could run duplicate analyses and spike analyses.

OPERATING FACTORS AFFECTING SAMPLING

During the 30-day sampling episode, several occurrences affected the character of the wastewater samples collected. On February 10, 1981, the day sampling began, 1.94 inches of rain fell in the Chattanooga area. Because of the combined sewer arrangement in portions of the Chattanooga service area, flow to the POTW reached over 100 million gallons (only 44 million gallons entered the plant; the remaining 56 million gallons were bypassed). Because of this high flow, pollutants in the influent waste stream were considerably diluted, directly affecting the solids content of the primary sludge. On this day and on February 16 and 17 when rain was again experienced, the primary sludge was wasted only twice each day instead of the standard three times. Therefore, twice the normal sample volume was collected with the second set of grab samples on these days and composited with the other sample.

During the rain event on March 4, 1981 (0.94 inches), the bypass pumps that normally discharge the excess combined sewer flow to the Tennessee River were not functioning. This situation caused the influent line to the POTW to surcharge, and a scum layer formed in the influent manhole preventing the collection of representative samples. Influent data from this sampling period, therefore, are not included in the summary averages.

Throughout the sampling program, solvent odors were noticed at the influent location and on February 27, 1981, the odor was particularly more pronounced. Further investigations revealed that a slug load had been discharged to the POTW. The bar screens at the influent to the plant were clogged with a gray, gel-like, viscous substance. Plant personnel responded immediately to the situation by unclogging the bar screens and monitoring the discharge to minimize the effects of the slug load. A qualitative analysis of the viscous substance performed by the E.C. Jordan Co. Environmental Laboratory revealed the following major compounds: chloroform, cyclohexane, toluene, 4-ethenylcyclohexane, ethenylbenzene, n-propylbenzene, hexadecanoic acid, linoleic acid, 2-methoxyphenol, 2-methylpropanoic acid, 2-tricecanone, dichlorostearic acid, tetradecanoic acid and oleic acid. Although this discharge was observed, no appreciable changes in the influent waste stream character were reflected in the analytical results for this day in comparison to the other 35 days of sampling.

As noted previously, the aerated grit chamber and wet-air oxidation units have not been operating for several years. The only mechanical breakdown that occured during the sampling program involved the shutdown of one of the primary settling tanks in order to repair several broken slats on the primary sludge scraper. This lasted from 2000 hours on February 12 to 1600 hours on February 16. The increase in the primary effluent solids concentration reflects this breakdown. All other treatment components were fully operational during both the 6-day and 30-day episodes.

SECTION 5

DISCUSSION OF ANALYTICAL RESULTS

Daily analytical results for the influent, primary effluent, treated effluent, primary sludge, WAS, digester decant, vacuum filter filtrate and tap water locations during the combined 36-day sampling effort are presented in Appendix C. Summary analyses throughout this report are drawn from this data base. Daily mass balance analyses are presented in Appendix D.

BACKGROUND POLLUTANT LEVELS

The Tennessee American Water Company supplies water to the city of Chattanooga and surrounding communities. Water is drawn from the Tennesse River several miles upstream of the MBWWTP outfall and is treated (including chlorinating) before distribution. Tap water samples were taken from a faucet at the MBWWTP once per six-day episode for a total of six times over the 36-day period. Table 9 presents a summary of the priority toxic pollutants detected in the tap water.

Dichlorobromomethane was detected 50 percent of the time in tap water samples at an average concentration of 3 µg/ℓ, but was not detected in any of the other seven waste streams throughout the 36-day period. The high volatility of this compound may explain this phenonomen. Chloroform was detected 100 percent of the time in the tap water, the influent to the treatment plant and the secondary effluent from the treatment plant. The average tap water chloroform concentration (32 µg/ℓ) represents 43 percent of the average influent chloroform concentration for the 36 sampling periods.

Toluene and methylene chloride were also detected consistently in tap water, although at much lower concentrations than chloroform. Methylene chloride results may be the result of sporadic contamination from field and laboratory procedures. Bis(2-ethylhexyl)phthalate was observed in 67 percent of the tap water samples at a mean concentration of 56 µg/ℓ. However, values ranged from not detected (on two occassions) to 236 µg/ℓ. Because of the wide variation and limited number of analyses, the average value should be viewed cautiously. Mercury was detected in the tap water during the initial six day episode at 9 µg/ℓ, but was not detected in the five subsequent analyses which suggests that the 9 µg/ℓ may be a false-positive value.

PERCENT OCCURRENCE ANALYSIS

For each of the priority toxic pollutants, percent occurrence in the influent, primary effluent, secondary effluent, primary sludge, secondary sludge, vacuum filter filtrate, digester decant, and tap water samples was determined. Tables 10, 11, and 12 list the summary percent occurrences for the 36-day, the 30-day, and the six-day periods, respectively. For this evaluation, if pollutants were not identified at or above the pollutant detection limits, the pollutant was assumed not to be present. For example, the analytical detection limit for selenium is 1 µg/ℓ. Therefore, if selenium was not present at 1 µg/ℓ or greater, it was assumed not to be present.

TABLE 9. SUMMARY OF TAP WATER ANALYTICAL DATA

	Tap Water*				Secondary Effluent	Influent
Parameter	Combined 36-Day Percent Occurrence	Six-Day Concentration µg/l	30-Day Average µg/l	Combined-36 Day Average µg/l	36-Day Average µg/l	36-Day Average µg/l
Chloroform	100	37	31	32	36	74
Toluene	100	1	5	5	54	329
Zinc	100	16	33	30	99	358
Methylene Chloride	83	<1	9	7	72	82
Benzene	67	<1	2	1	4	17
Bis(2 ethylhexyl)phthalate	67	1	67	56	10	13
Dichlorobromomethane	50	11	1	3	ND	ND
Chromium	50	7	4	5	49	226
Copper	50	20	11	13	19	85
1,1,1-Trichloroethane	33	ND	1	<1	5	24
Di-n-butyl phthalate	33	<1	1	<1	2	5
Cyanide	33	50	1	9	92	883
Ethylbenzene	17	<1	4	4	4	23
Chlorobenzene	17	ND	<1	<1	<1	1
Trichlorofluormethane	17	ND	<1	<1	<1	1
Chlorodibromomethane	17	2	ND	<1	<1	<1
Di-n-octyl phthalate	17	ND	3	3	3	<1
Antimony	17	2	ND	<1	1	4
Arsenic	17	2	ND	<1	2	4
Cadmium	17	9	ND	2	3	5
Lead	17	82	ND	14	15	45
Mercury**	17	9,000	ND	1,500	17	309
Nickel	17	13	ND	2	46	78
Selenium	17	2	ND	<2	1	1
Silver	17	2	ND	<1	1	8

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* Tap water results are based on one sample collected during each six day episode or a total of six samples during the combined 36-day period.

** ng/l

TABLE 10

PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED

PARAMETER	INFL		PRIM EFFL		SEC EFFL		PRIM SLUDGE		SEC SLUDGE		VAC FILT FILTRATE		DIGESTER SUPERNATNT		TAP WATER	
BENZENE	100	(35)	100	(36)	100	(35)	58	(36)	25	(36)	83	(6)	100	(6)	67	(6)
METHYLENE CHLORIDE	100	(35)	97	(36)	100	(35)	44	(36)	14	(36)	83	(6)	100	(6)	83	(6)
TETRACHLOROETHYLENE	100	(35)	100	(36)	86	(35)	67	(36)	58	(36)	0	(6)	0	(6)	0	(6)
CHROMIUM	100	(35)	100	(36)	92	(36)	100	(36)	100	(36)	100	(6)	100	(6)	50	(6)
COPPER	100	(35)	100	(36)	69	(36)	100	(36)	100	(36)	100	(6)	100	(6)	50	(6)
SILVER	100	(35)	100	(36)	86	(36)	100	(36)	100	(36)	100	(6)	100	(6)	17	(6)
ZINC	100	(35)	100	(36)	100	(36)	100	(36)	100	(36)	100	(6)	100	(6)	100	(6)
CHLOROFORM	97	(35)	100	(36)	100	(35)	89	(36)	81	(36)	0	(6)	17	(6)	100	(6)
TOLUENE	97	(35)	97	(36)	97	(35)	97	(36)	47	(36)	100	(6)	100	(6)	100	(6)
TRICHLOROETHYLENE	97	(35)	97	(36)	57	(35)	97	(36)	36	(36)	0	(6)	0	(6)	0	(6)
PHENOL	97	(35)	94	(36)	94	(36)	56	(36)	3	(36)	83	(6)	83	(6)	0	(6)
CYANIDE	97	(35)	97	(36)	100	(36)	100	(36)	100	(36)	50	(6)	80	(5)	33	(6)
ETHYLBENZENE	89	(35)	94	(36)	60	(35)	97	(36)	42	(36)	33	(6)	100	(6)	17	(6)
1,1,1-TRICHLOROETHANE	86	(35)	86	(36)	54	(35)	33	(36)	8	(36)	17	(6)	33	(6)	33	(6)
1,2,4-TRICHLOROBENZENE	83	(35)	81	(36)	69	(36)	92	(36)	78	(36)	17	(6)	50	(6)	0	(6)
BIS(2-ETHYLHEXYL) PHTHALATE	83	(35)	75	(36)	56	(36)	42	(36)	19	(36)	100	(6)	100	(6)	67	(6)
NICKEL	77	(35)	78	(36)	58	(36)	100	(36)	100	(36)	67	(6)	100	(6)	17	(6)
2,4-DICHLOROPHENOL	74	(35)	75	(36)	64	(36)	0	(36)	0	(36)	33	(6)	17	(6)	0	(6)
NAPHTHALENE	71	(35)	56	(36)	25	(36)	94	(36)	39	(36)	50	(6)	67	(6)	0	(6)
1,3-DICHLOROBENZENE	69	(35)	61	(36)	42	(36)	8	(36)	0	(36)	33	(6)	83	(6)	0	(6)
DI-N-BUTYL PHTHALATE	60	(35)	56	(36)	42	(36)	11	(36)	3	(36)	33	(6)	83	(6)	33	(6)
1,4-DICHLOROBENZENE	57	(35)	67	(36)	17	(36)	50	(36)	0	(36)	17	(6)	83	(6)	0	(6)
DIETHYL PHTHALATE	57	(35)	61	(36)	58	(36)	3	(36)	0	(36)	100	(6)	67	(6)	0	(6)
MERCURY	57	(35)	39	(36)	6	(36)	86	(36)	22	(36)	50	(6)	100	(6)	17	(6)
1,2-TRANS-DICHLOROETHYLENE	49	(35)	72	(36)	0	(35)	19	(36)	0	(36)	0	(6)	100	(6)	0	(6)
PHENANTHRENE	46	(35)	47	(36)	3	(36)	89	(36)	6	(36)	50	(6)	83	(6)	0	(6)
CADMIUM	46	(35)	36	(36)	28	(36)	94	(36)	86	(36)	17	(6)	100	(6)	17	(6)
LEAD	46	(35)	50	(36)	22	(36)	100	(36)	97	(36)	67	(6)	100	(6)	17	(6)
ARSENIC	37	(35)	31	(36)	22	(36)	100	(36)	100	(36)	50	(6)	67	(6)	17	(6)
ANTHRACENE	34	(35)	33	(36)	0	(36)	50	(36)	6	(36)	50	(6)	67	(6)	0	(6)
PENTACHLOROPHENOL	31	(35)	25	(36)	17	(36)	3	(36)	3	(36)	17	(6)	0	(6)	0	(6)
ANTIMONY	31	(35)	25	(36)	22	(36)	89	(36)	53	(36)	17	(6)	33	(6)	17	(6)
FLUORENE	29	(35)	22	(36)	11	(36)	53	(36)	0	(36)	33	(6)	33	(6)	0	(6)
ACENAPHTHENE	23	(35)	11	(36)	19	(36)	19	(36)	0	(36)	0	(6)	17	(6)	0	(6)
CHLOROBENZENE	20	(35)	28	(36)	6	(35)	25	(36)	6	(36)	0	(6)	100	(6)	17	(6)
TRICHLOROFLUOROMETHANE	20	(35)	17	(36)	14	(35)	3	(36)	0	(36)	17	(6)	17	(6)	17	(6)
2,4,6-TRICHLOROPHENOL	20	(35)	17	(36)	22	(36)	0	(36)	0	(36)	17	(6)	0	(6)	0	(6)
FLUORANTHENE	20	(35)	28	(36)	3	(36)	89	(36)	17	(36)	17	(6)	50	(6)	0	(6)
PYRENE	20	(35)	19	(36)	0	(36)	69	(36)	8	(36)	17	(6)	33	(6)	0	(6)
SELENIUM	20	(35)	17	(36)	17	(36)	14	(36)	14	(36)	17	(6)	17	(6)	17	(6)
2,4-DIMETHYLPHENOL	17	(35)	19	(36)	36	(36)	0	(36)	0	(36)	17	(6)	0	(6)	0	(6)
1,2-DICHLOROBENZENE	17	(35)	19	(36)	8	(36)	31	(36)	3	(36)	17	(6)	17	(6)	0	(6)
BERYLLIUM	17	(35)	14	(36)	0	(36)	89	(36)	89	(36)	0	(6)	50	(6)	0	(6)
THALLIUM	17	(35)	17	(36)	17	(36)	0	(36)	0	(36)	17	(6)	17	(6)	0	(6)
1,2-DIPHENYLHYDRAZINE	14	(35)	8	(36)	0	(36)	0	(36)	0	(36)	33	(6)	17	(6)	0	(6)
BIS(2-CHLOROETHYOXY) METHANE	14	(35)	11	(36)	3	(36)	0	(36)	0	(36)	33	(6)	17	(6)	0	(6)
BUTYL BENZYL PHTHALATE	14	(35)	14	(36)	6	(36)	25	(36)	3	(36)	0	(6)	17	(6)	0	(6)
1,1-DICHLOROETHANE	11	(35)	8	(36)	0	(35)	28	(36)	0	(36)	0	(6)	50	(6)	0	(6)
1,1-DICHLOROETHYLENE	11	(35)	6	(36)	6	(35)	0	(36)	0	(36)	0	(6)	0	(6)	0	(6)
ACENAPHTHYLENE	11	(35)	11	(36)	3	(36)	8	(36)	3	(36)	17	(6)	0	(6)	0	(6)
PARACHLOROMETA CRESOL	9	(35)	6	(36)	3	(36)	0	(36)	0	(36)	0	(6)	17	(6)	0	(6)
2-CHLOROPHENOL	9	(35)	3	(36)	6	(36)	0	(36)	0	(36)	17	(6)	0	(6)	0	(6)

POLLUTANTS NOT LISTED WERE NEVER DETECTED
UNCONFIRMED PESTICIDES WERE ASSUMED NOT DETECTED
NUMBERS IN PARENTHESES ARE THE TOTAL NUMBER OF SAMPLES TAKEN

TABLE 10
PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED

PARAMETER	INFL	PRIM EFFL	SEC EFFL	PRIM SLUDGE	SEC SLUDGE	VAC FILT FILTRATE	DIGESTER SUPERNATNT	TAP WATER
1,1,2-TRICHLOROETHANE	6 (35)	8 (36)	3 (35)	42 (36)	6 (36)	0 (6)	0 (6)	0 (6)
1,1,2,2-TETRACHLOROETHANE	6 (35)	0 (36)	3 (35)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
1,2-DICHLOROPROPANE	6 (35)	0 (36)	0 (35)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
1,3-DICHLOROPROPYLENE	6 (35)	0 (36)	0 (35)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
CHLORODIBROMOMETHANE	6 (35)	0 (36)	0 (35)	0 (36)	0 (36)	0 (6)	0 (6)	17 (6)
2,4 DINITROPHENOL	6 (35)	8 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
CHRYSENE	6 (35)	8 (36)	0 (36)	36 (36)	6 (36)	17 (6)	17 (6)	0 (6)
ALPHA-ENDOSULFAN	6 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
GAMMA-BHC	6 (35)	3 (36)	3 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
CARBON TETRACHLORIDE	3 (35)	3 (36)	0 (35)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
1,2-DICHLOROETHANE	3 (35)	0 (36)	0 (35)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
METHYL CHLORIDE	3 (35)	3 (36)	0 (35)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
VINYL CHLORIDE	3 (35)	6 (36)	0 (35)	3 (36)	0 (36)	0 (6)	17 (6)	0 (6)
4-NITROPHENOL	3 (35)	0 (36)	6 (36)	0 (36)	3 (36)	0 (6)	0 (6)	0 (6)
BIS(2-CHLOROETHYL) ETHER	3 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
N-NITROSODI-N-PROPYLAMINE	3 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
DI-N-OCTYL PHTHALATE	3 (35)	14 (36)	8 (36)	3 (36)	0 (36)	33 (6)	67 (6)	17 (6)
DIMETHYL PHTHALATE	3 (35)	8 (36)	14 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
1,2-BENZANTHRACENE	3 (35)	0 (36)	0 (36)	31 (36)	6 (36)	0 (6)	17 (6)	0 (6)
ALPHA-BHC	3 (35)	0 (36)	0 (36)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
CHLOROETHANE	0 (35)	0 (36)	0 (35)	0 (36)	3 (36)	0 (6)	17 (6)	0 (6)
DICHLOROBROMOMETHANE	0 (35)	0 (36)	0 (35)	3 (36)	0 (36)	0 (6)	0 (6)	50 (6)
DICHLORODIFLUOROMETHANE	0 (35)	0 (36)	0 (35)	3 (36)	3 (36)	0 (6)	0 (6)	0 (6)
2-NITROPHENOL	0 (35)	3 (36)	3 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
BENZIDINE	0 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
HEXACHLOROBENZENE	0 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
HEXACHLOROETHANE	0 (35)	0 (36)	0 (36)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
2-CHLORONAPHTHALENE	0 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
2,4 DINITROTOLUENE	0 (35)	0 (36)	0 (36)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
4-CHLOROPHENYL PHENYL ETHER	0 (35)	0 (36)	0 (36)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
BIS(2-CHLOROISOPROPYL) ETHER	0 (35)	8 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
ISOPHORONE	0 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	0 (6)	0 (6)
NITROBENZENE	0 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	17 (6)	0 (6)
N-NITROSODIPHENYLAMINE	0 (35)	3 (36)	0 (36)	0 (36)	0 (36)	0 (6)	17 (6)	0 (6)
BENZO (A)PYRENE	0 (35)	0 (36)	0 (36)	8 (36)	0 (36)	0 (6)	0 (6)	0 (6)
11,12-BENZOFLUORANTHENE	0 (35)	0 (36)	0 (36)	19 (36)	3 (36)	0 (6)	0 (6)	0 (6)
1,12-BENZOPERYLENE	0 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	17 (6)	0 (6)
1,2:5,6-DIBENZANTHRACENE	0 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	33 (6)	0 (6)
INDENO(1,2,3-C,D) PYRENE	0 (35)	0 (36)	0 (36)	3 (36)	0 (36)	0 (6)	0 (6)	0 (6)
ENDRIN ALDEHYDE	0 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	17 (6)	0 (6)
DELTA-BHC	0 (35)	0 (36)	0 (36)	0 (36)	0 (36)	0 (6)	17 (6)	0 (6)

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TABLE 11
PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 30-DAY STUDY

PARAMETER	INFL	PRIM EFFL	SEC EFFL	PRIM SLUDGE	SEC SLUDGE	VAC FILT FILTRATE	DIGESTER SUPERNATNT	TAP WATER
BENZENE	100 (29)	100 (30)	100 (30)	60 (30)	13 (30)	100 (5)	100 (5)	80 (5)
METHYLENE CHLORIDE	100 (29)	97 (30)	100 (30)	33 (30)	10 (30)	100 (5)	100 (5)	100 (5)
TETRACHLOROETHYLENE	100 (29)	100 (30)	83 (30)	67 (30)	50 (30)	0 (5)	0 (5)	0 (5)
CHROMIUM	100 (29)	100 (30)	90 (30)	100 (30)	100 (30)	100 (5)	100 (5)	40 (5)
COPPER	100 (29)	100 (30)	67 (30)	100 (30)	100 (30)	100 (5)	100 (5)	40 (5)
SILVER	100 (29)	100 (30)	83 (30)	100 (30)	100 (30)	100 (5)	100 (5)	0 (5)
ZINC	100 (29)	100 (30)	100 (30)	100 (30)	100 (30)	100 (5)	100 (5)	100 (5)
CHLOROFORM	97 (29)	100 (30)	100 (30)	93 (30)	77 (30)	0 (5)	20 (5)	100 (5)
TOLUENE	97 (29)	97 (30)	97 (30)	97 (30)	37 (30)	100 (5)	100 (5)	100 (5)
TRICHLOROETHYLENE	97 (29)	97 (30)	63 (30)	100 (30)	30 (30)	0 (5)	0 (5)	0 (5)
PHENOL	97 (29)	93 (30)	93 (30)	63 (30)	0 (30)	80 (5)	80 (5)	0 (5)
CYANIDE	97 (29)	97 (30)	100 (30)	100 (30)	100 (30)	40 (5)	80 (5)	20 (5)
ETHYLBENZENE	86 (29)	93 (30)	60 (30)	97 (30)	30 (30)	40 (5)	100 (5)	20 (5)
1,1,1-TRICHLOROETHANE	83 (29)	83 (30)	50 (30)	40 (30)	10 (30)	20 (5)	40 (5)	40 (5)
1,2,4-TRICHLOROBENZENE	79 (29)	77 (30)	63 (30)	93 (30)	87 (30)	0 (5)	40 (5)	0 (5)
1,3-DICHLOROBENZENE	79 (29)	73 (30)	50 (30)	0 (30)	0 (30)	40 (5)	100 (5)	0 (5)
BIS(2-ETHYLHEXYL) PHTHALATE	79 (29)	70 (30)	47 (30)	30 (30)	7 (30)	100 (5)	100 (5)	60 (5)
2,4-DICHLOROPHENOL	72 (29)	73 (30)	60 (30)	0 (30)	0 (30)	20 (5)	0 (5)	0 (5)
NICKEL	72 (29)	73 (30)	50 (30)	100 (30)	100 (30)	60 (5)	100 (5)	0 (5)
NAPHTHALENE	66 (29)	47 (30)	10 (30)	97 (30)	43 (30)	40 (5)	60 (5)	0 (5)
MERCURY	66 (29)	47 (30)	7 (30)	97 (30)	13 (30)	60 (5)	100 (5)	0 (5)
DI-N-BUTYL PHTHALATE	52 (29)	47 (30)	30 (30)	0 (30)	3 (30)	20 (5)	80 (5)	40 (5)
1,4-DICHLOROBENZENE	48 (29)	60 (30)	20 (30)	43 (30)	0 (30)	20 (5)	80 (5)	0 (5)
DIETHYL PHTHALATE	48 (29)	53 (30)	50 (30)	3 (30)	0 (30)	100 (5)	60 (5)	0 (5)
1,2-TRANS-DICHLOROETHYLENE	41 (29)	67 (30)	0 (30)	3 (30)	0 (30)	0 (5)	100 (5)	0 (5)
ANTHRACENE	38 (29)	40 (30)	0 (30)	47 (30)	3 (30)	60 (5)	80 (5)	0 (5)
FLUORENE	34 (29)	27 (30)	13 (30)	63 (30)	0 (30)	40 (5)	40 (5)	0 (5)
PHENANTHRENE	34 (29)	37 (30)	0 (30)	93 (30)	3 (30)	60 (5)	80 (5)	0 (5)
CADMIUM	34 (29)	23 (30)	13 (30)	100 (30)	100 (30)	0 (5)	100 (5)	0 (5)
LEAD	34 (29)	40 (30)	10 (30)	100 (30)	97 (30)	60 (5)	100 (5)	0 (5)
ACENAPHTHENE	28 (29)	13 (30)	13 (30)	23 (30)	0 (30)	0 (5)	20 (5)	0 (5)
TRICHLOROFLUOROMETHANE	24 (29)	20 (30)	17 (30)	0 (30)	0 (30)	20 (5)	20 (5)	20 (5)
ARSENIC	24 (29)	17 (30)	7 (30)	100 (30)	100 (30)	40 (5)	60 (5)	0 (5)
2,4-DIMETHYLPHENOL	21 (29)	23 (30)	37 (30)	0 (30)	0 (30)	20 (5)	0 (5)	0 (5)
FLUORANTHENE	21 (29)	33 (30)	3 (30)	90 (30)	20 (30)	20 (5)	40 (5)	0 (5)
PYRENE	21 (29)	23 (30)	0 (30)	67 (30)	10 (30)	20 (5)	20 (5)	0 (5)
PENTACHLOROPHENOL	17 (29)	13 (30)	7 (30)	3 (30)	3 (30)	0 (5)	0 (5)	0 (5)
1,2-DIPHENYLHYDRAZINE	17 (29)	10 (30)	0 (30)	0 (30)	0 (30)	40 (5)	20 (5)	0 (5)
BIS(2-CHLOROETHYOXY) METHANE	17 (29)	13 (30)	3 (30)	0 (30)	0 (30)	40 (5)	20 (5)	0 (5)
ANTIMONY	17 (29)	10 (30)	7 (30)	87 (30)	47 (30)	0 (5)	20 (5)	0 (5)
CHLOROBENZENE	14 (29)	27 (30)	7 (30)	13 (30)	3 (30)	0 (5)	100 (5)	20 (5)
1,1-DICHLOROETHYLENE	14 (29)	7 (30)	7 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
2,4,6-TRICHLOROPHENOL	14 (29)	13 (30)	13 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
ACENAPHTHYLENE	14 (29)	13 (30)	3 (30)	10 (30)	3 (30)	20 (5)	0 (5)	0 (5)
BERYLLIUM	14 (29)	13 (30)	0 (30)	100 (30)	100 (30)	0 (5)	40 (5)	0 (5)
1,1-DICHLOROETHANE	10 (29)	10 (30)	0 (30)	17 (30)	0 (30)	0 (5)	60 (5)	0 (5)
PARACHLOROMETA CRESOL	10 (29)	7 (30)	3 (30)	0 (30)	0 (30)	0 (5)	20 (5)	0 (5)
2-CHLOROPHENOL	10 (29)	3 (30)	7 (30)	0 (30)	0 (30)	20 (5)	0 (5)	0 (5)
1,1,2-TRICHLOROETHANE	7 (29)	10 (30)	3 (30)	50 (30)	7 (30)	0 (5)	0 (5)	0 (5)
1,1,2,2-TETRACHLOROETHANE	7 (29)	0 (30)	3 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
1,2-DICHLOROPROPANE	7 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
1,3-DICHLOROPROPYLENE	7 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
CHLORODIBROMOMETHANE	7 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)

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TABLE 11
PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 30-DAY STUDY

PARAMETER	INFL	PRIM EFFL	SEC EFFL	PRIM SLUDGE	SEC SLUDGE	VAC FILT FILTRATE	DIGESTER SUPERNATNT	TAP WATER
2,4-DINITROPHENOL	7 (29)	10 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
CHRYSENE	7 (29)	10 (30)	0 (30)	37 (30)	7 (30)	20 (5)	20 (5)	0 (5)
CARBON TETRACHLORIDE	3 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
1,2-DICHLOROETHANE	3 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
METHYL CHLORIDE	3 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
VINYL CHLORIDE	3 (29)	7 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
4-NITROPHENOL	3 (29)	0 (30)	7 (30)	0 (30)	3 (30)	0 (5)	0 (5)	0 (5)
BIS(2-CHLOROETHYL) ETHER	3 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
N-NITROSODI-N-PROPYLAMINE	3 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
DI-N-OCTYL PHTHALATE	3 (29)	17 (30)	10 (30)	3 (30)	0 (30)	40 (5)	60 (5)	20 (5)
DIMETHYL PHTHALATE	3 (29)	10 (30)	10 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
1,2-BENZANTHRACENE	3 (29)	0 (30)	0 (30)	30 (30)	7 (30)	0 (5)	20 (5)	0 (5)
SELENIUM	3 (29)	0 (30)	0 (30)	13 (30)	0 (30)	0 (5)	0 (5)	0 (5)
CHLOROETHANE	0 (29)	0 (30)	0 (30)	0 (30)	3 (30)	0 (5)	0 (5)	0 (5)
DICHLOROBROMOMETHANE	0 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	40 (5)
2-NITROPHENOL	0 (29)	3 (30)	3 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
BENZIDINE	0 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
HEXACHLOROBENZENE	0 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
HEXACHLOROETHANE	0 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
2-CHLORONAPHTHALENE	0 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
1,2-DICHLOROBENZENE	0 (29)	3 (30)	3 (30)	37 (30)	3 (30)	0 (5)	0 (5)	0 (5)
2,6-DINITROTOLUENE	0 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
4-CHLOROPHENYL PHENYL ETHER	0 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
BIS(2-CHLOROISOPROPYL) ETHER	0 (29)	10 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
ISOPHORONE	0 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	0 (5)	0 (5)
NITROBENZENE	0 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	20 (5)	0 (5)
N-NITROSODIPHENYLAMINE	0 (29)	3 (30)	0 (30)	0 (30)	0 (30)	0 (5)	20 (5)	0 (5)
BUTYL BENZYL PHTHALATE	0 (29)	3 (30)	0 (30)	17 (30)	3 (30)	0 (5)	0 (5)	0 (5)
BENZO (A)PYRENE	0 (29)	0 (30)	0 (30)	10 (30)	0 (30)	0 (5)	0 (5)	0 (5)
11,12-BENZOFLUORANTHENE	0 (29)	0 (30)	0 (30)	23 (30)	3 (30)	0 (5)	0 (5)	0 (5)
1,12-BENZOPERYLENE	0 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	20 (5)	0 (5)
1,215,6-DIBENZANTHRACENE	0 (29)	0 (30)	0 (30)	0 (30)	0 (30)	0 (5)	40 (5)	0 (5)
INDENO(1,2,3-C,D) PYRENE	0 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)
ALPHA-BHC	0 (29)	0 (30)	0 (30)	3 (30)	0 (30)	0 (5)	0 (5)	0 (5)

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TABLE 12
PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 6-DAY STUDY

PARAMETER	INFL	PRIM EFFL	SEC EFFL	PRIM SLUDGE	SEC SLUDGE	VAC FILT FILTRATE	DIGESTER SUPERNATNT	TAP WATER
BENZENE	100 (6)	100 (6)	100 (5)	50 (6)	83 (6)	0 (1)	100 (1)	0 (1)
1,1,1-TRICHLOROETHANE	100 (6)	100 (6)	80 (5)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
CHLOROFORM	100 (6)	100 (6)	100 (5)	67 (6)	100 (6)	0 (1)	0 (1)	100 (1)
ETHYLBENZENE	100 (6)	100 (6)	60 (5)	100 (6)	100 (6)	0 (1)	100 (1)	0 (1)
METHYLENE CHLORIDE	100 (6)	100 (6)	100 (5)	100 (6)	33 (6)	0 (1)	100 (1)	0 (1)
TETRACHLOROETHYLENE	100 (6)	100 (6)	100 (5)	67 (6)	100 (6)	0 (1)	0 (1)	0 (1)
TOLUENE	100 (6)	100 (6)	100 (5)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
TRICHLOROETHYLENE	100 (6)	100 (6)	20 (5)	83 (6)	67 (6)	0 (1)	0 (1)	0 (1)
PENTACHLOROPHENOL	100 (6)	83 (6)	67 (6)	0 (6)	0 (6)	100 (1)	0 (1)	0 (1)
PHENOL	100 (6)	100 (6)	100 (6)	17 (6)	17 (6)	100 (1)	100 (1)	0 (1)
1,2,4-TRICHLOROBENZENE	100 (6)	100 (6)	100 (6)	83 (6)	33 (6)	100 (1)	100 (1)	0 (1)
1,2-DICHLOROBENZENE	100 (6)	100 (6)	33 (6)	0 (6)	0 (6)	100 (1)	100 (1)	0 (1)
1,4-DICHLOROBENZENE	100 (6)	100 (6)	0 (6)	83 (6)	0 (6)	0 (1)	100 (1)	0 (1)
NAPHTHALENE	100 (6)	100 (6)	100 (6)	83 (6)	17 (6)	100 (1)	100 (1)	0 (1)
BIS(2-ETHYLHEXYL) PHTHALATE	100 (6)	100 (6)	100 (6)	100 (6)	83 (6)	100 (1)	100 (1)	100 (1)
DI-N-BUTYL PHTHALATE	100 (6)	100 (6)	100 (6)	67 (6)	0 (6)	100 (1)	100 (1)	0 (1)
DIETHYL PHTHALATE	100 (6)	100 (6)	100 (6)	0 (6)	0 (6)	100 (1)	100 (1)	0 (1)
PHENANTHRENE	100 (6)	100 (6)	17 (6)	67 (6)	17 (6)	0 (1)	100 (1)	0 (1)
ANTIMONY	100 (6)	100 (6)	100 (6)	100 (6)	83 (6)	100 (1)	100 (1)	100 (1)
ARSENIC	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
CADMIUM	100 (6)	100 (6)	100 (6)	67 (6)	17 (6)	100 (1)	100 (1)	100 (1)
CHROMIUM	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
COPPER	100 (6)	100 (6)	83 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
CYANIDE	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	0 ( )	100 (1)
LEAD	100 (6)	100 (6)	83 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
NICKEL	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
SELENIUM	100 (6)	100 (6)	100 (6)	17 (6)	83 (6)	100 (1)	100 (1)	100 (1)
SILVER	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
THALLIUM	100 (6)	100 (6)	100 (6)	0 (6)	0 (6)	100 (1)	100 (1)	0 (1)
ZINC	100 (6)	100 (6)	100 (6)	100 (6)	100 (6)	100 (1)	100 (1)	100 (1)
1,2-TRANS-DICHLOROETHYLENE	83 (6)	100 (6)	0 (5)	100 (6)	0 (6)	0 (1)	100 (1)	0 (1)
2,4-DICHLOROPHENOL	83 (6)	83 (6)	83 (6)	0 (6)	0 (6)	100 (1)	100 (1)	0 (1)
BUTYL BENZYL PHTHALATE	83 (6)	67 (6)	33 (6)	67 (6)	0 (6)	0 (1)	100 (1)	0 (1)
CHLOROBENZENE	50 (6)	33 (6)	0 (5)	83 (6)	17 (6)	0 (1)	100 (1)	0 (1)
2,4,6-TRICHLOROPHENOL	50 (6)	33 (6)	67 (6)	0 (6)	0 (6)	100 (1)	0 (1)	0 (1)
ALPHA-ENDOSULFAN	33 (6)	0 (6)	0 (6)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
GAMMA-BHC	33 (6)	17 (6)	17 (6)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
BERYLLIUM	33 (6)	17 (6)	0 (6)	33 (6)	33 (6)	0 (1)	100 (1)	0 (1)
1,1-DICHLOROETHANE	17 (6)	0 (6)	0 (5)	83 (6)	0 (6)	0 (1)	0 (1)	0 (1)
1,3-DICHLOROBENZENE	17 (6)	0 (6)	0 (6)	50 (6)	0 (6)	0 (1)	0 (1)	0 (1)
FLUORANTHENE	17 (6)	0 (6)	0 (6)	83 (6)	0 (6)	0 (1)	100 (1)	0 (1)
ANTHRACENE	17 (6)	0 (6)	0 (6)	67 (6)	17 (6)	0 (1)	0 (1)	0 (1)
PYRENE	17 (6)	0 (6)	0 (6)	83 (6)	0 (6)	0 (1)	100 (1)	0 (1)
ALPHA-BHC	17 (6)	0 (6)	0 (6)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
MERCURY	17 (6)	0 (6)	0 (6)	33 (6)	67 (6)	0 (1)	100 (1)	100 (1)
CHLOROETHANE	0 (6)	0 (6)	0 (5)	0 (6)	0 (6)	0 (1)	100 (1)	0 (1)
DICHLOROBROMOMETHANE	0 (6)	0 (6)	0 (5)	17 (6)	0 (6)	0 (1)	0 (1)	100 (1)
TRICHLOROFLUOROMETHANE	0 (6)	0 (6)	0 (5)	17 (6)	0 (6)	0 (1)	0 (1)	0 (1)
DICHLORODIFLUOROMETHANE	0 (6)	0 (6)	0 (5)	17 (6)	17 (6)	0 (1)	0 (1)	0 (1)
CHLORODIBROMOMETHANE	0 (6)	0 (6)	0 (5)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
VINYL CHLORIDE	0 (6)	0 (6)	0 (5)	0 (6)	0 (6)	0 (1)	0 (1)	100 (1)
2,4-DIMETHYLPHENOL	0 (6)	0 (6)	0 (5)	0 (6)	0 (6)	0 (1)	100 (1)	0 (1)
ACENAPHTHENE	0 (6)	0 (6)	33 (6)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)

POLLUTANTS NOT LISTED WERE NEVER DETECTED
UNCONFIRMED PESTICIDES WERE ASSUMED NOT DETECTED
NUMBERS IN PARENTHESES ARE THE TOTAL NUMBER OF SAMPLES TAKEN

TABLE 12
PERCENT OCCURRENCE OF POLLUTANT PARAMETERS

CHATTANOOGA 6-DAY STUDY

PARAMETER	INFL	PRIM EFFL	SEC EFFL	PRIM SLUDGE	SEC SLUDGE	VAC FILT FILTRATE	DIGESTER SUPERNATNT	TAP WATER
DI-N-OCTYL PHTHALATE	0 (6)	0 (6)	0 (6)	0 (6)	0 (6)	0 (1)	100 (1)	0 (1)
DIMETHYL PHTHALATE	0 (6)	0 (6)	33 (6)	0 (6)	0 (6)	0 (1)	0 (1)	0 (1)
1,2-BENZANTHRACENE	0 (6)	0 (6)	0 (6)	33 (6)	0 (6)	0 (1)	0 (1)	0 (1)
CHRYSENE	0 (6)	0 (6)	0 (6)	33 (6)	0 (6)	0 (1)	0 (1)	0 (1)
ENDRIN ALDEHYDE	0 (6)	0 (6)	0 (6)	0 (6)	0 (6)	0 (1)	100 (1)	0 (1)
DELTA-BHC	0 (6)	0 (6)	0 (6)	0 (6)	0 (6)	0 (1)	100 (1)	0 (1)

POLLUTANTS NOT LISTED WERE NEVER DETECTED
UNCONFIRMED PESTICIDES WERE ASSUMED NOT DETECTED
NUMBERS IN PARENTHESES ARE THE TOTAL NUMBER OF SAMPLES TAKEN

Analytical results for influent waste stream samples indicate that, during the combined 36-day sampling study, 72 pollutants were detected at least once, 24 were detected at least 50 percent of the time and seven pollutants (benzene, methylene chloride, tetrachloroethylene, chromium, copper, silver, and zinc) were detected during each of the 36 periods. Percent occurrences for the 30-day period are similar, (i.e., 66 pollutants detected at least once; 22 pollutants detected 50 percent or more of the time; and the seven pollutants listed above detected 100 percent of the time).

During the six-day study, 45 pollutants were detected at least once in the influent including six pollutants (alpha-BHC, gamma-BHC, alpha-endosulfun, buthyl benzyl phthalate, thallium, and 1,2-dichlorobenzene) that were not detected during the 30-day study; 35 pollutants were detected a minimum of 50 percent of the time in the influent; and 30 pollutants were detected 100 percent of the time. A comparison of the six-day and 30-day data indicates a substantial reduction in the number of pollutants detected in the influent 100 percent of the time during the 30-day study and a corresponding increase in the number of pollutants identified at least once during that study. This is also true for the other waste streams sampled and results from the increased time span during the 30-day study and the diversified industrial character of the wastewater, respectively.

Table 13 contains the influent waste stream priority toxic pollutant percent occurrences, average concentrations, minimum concentrations, and maximum concentrations for the six-day and 30-day studies and for the combined 36-day study. If a pollutant was not detected above the analytical detection limit of that compound, the concentration was assumed to be zero and zero was used to calculate the average concentration values. As expected, due to the extended sample collection period and subsequently greater data population during the 30-day study, both the total number of pollutants detected and the range of concentrations for most pollutants in the influent waste stream were observed to be greater for the 30-day study than for the six-day study.

Results of a comparison of the pollutants occurring in the secondary effluent during the six, 30- and combined 36-day periods are similar to the results of the comparison of the pollutants found in the influent during those studies. A total of 53 toxic compounds were detected during the combined 36-day period, in contrast to only 36 pollutants during the six-day period and 48 pollutants during the 30-day period. However, 21 pollutants occurred 100 percent of the time during the six-day period, compared to only five pollutants (benzene, chloroform, methylene chloride, cyanide, and zinc) during the 30- and combined 36-day periods. Table 14 presents a comparison of the percent occurrences, mean concentrations and range of the secondary effluent concentrations for the six-, 30-, and combined 36-day studies.

For the combined 36-day study, eight priority toxic pollutants (seven metals plus cyanide) were detected in the primary sludge 100 percent of the time. Phenol was the only acid extractable organic compound observed to occur repeatedly in the primary sludge during the 36-day period. Base/neutral pollutants observed to concentrate in the primary sludge during the combined 36-day period were 1,2,4-trichlorobenzene, 1,4-dichlorobenzene, fluoranthene, naphthalene, bis(2-ethylhexyl)phthalate, anthracene, fluorene, and pyrene. Results of both the six-day and 30-day studies indicate that certain metals concentrate in the primary sludge to a significant degree.

TABLE 13. COMPARISON OF THE SIX-DAY, 30-DAY, AND COMBINED 36-DAY INFLUENT PRIORITY POLLUTANT CONCENTRATIONS

	Six-Day Study				30-Day Study				36-Day Combined			
Parameter	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)
Benzene	100	13	27	5	100	18	60	8	100	17	60	5
1,1,1-Trichloroethane	100	43	140	8	83	20	240	ND	86	24	240	ND
Chloroform	100	77	150	17	97	73	150	ND	97	74	150	ND
Ethylbenzene	100	23	39	6	86	23	63	ND	89	23	63	ND
Methylene Chloride	100	40	72	6	100	89	440	12	100	82	440	6
Tetrachloroethylene	100	81	170	35	100	52	450	9	100	57	450	9
Toluene	100	378	690	190	97	321	1,600	ND	97	329	1,600	ND
Trichloroethylene	100	10	33	2	97	26	250	ND	97	23	250	ND
Pentachlorophenol	100	6	9	4	17	2	13	ND	31	2	13	ND
Phenol	100	448	720	220	97	201	646	ND	97	244	720	ND
1,2,4-Trichlorobenzene	100	100	160	52	79	17	91	ND	83	31	160	ND
1,2-Dichlorobenzene	100	7	12	1	0	ND	ND	ND	17	1	12	ND
1,4-Dichlorobenzene	100	4	9	2	48	6	35	ND	57	5	35	ND
Naphthalene	100	55	120	20	66	12	39	ND	71	19	120	ND
Bis(2-ethylhexyl) Phthalate	100	14	19	6	79	12	160	ND	83	13	160	ND
Di-n-Butyl Phthalate	100	4	7	2	52	6	67	ND	60	5	67	ND
Diethyl Phthalate	100	6	10	3	48	4	21	ND	57	5	21	ND
Phenanthrene	100	3	5	2	34	1	6	ND	46	1	6	ND
Antimony	100	12	42	4	17	2	17	ND	31	4	42	4
Arsenic	100	9	18	5	24	3	32	ND	37	4	32	5
Cadmium	100	10	10	9	34	4	40	ND	46	5	40	ND
Chromium	100	226	465	41	100	226	2,920	26	100	226	2,920	26
Copper	100	123	164	97	100	77	130	26	100	85	164	26
Cyanide	100	4,747	7,580	2,750	97	83	334	ND	97	883	7,580	ND
Lead	100	136	164	81	34	26	97	ND	46	45	164	ND
Nickel	100	98	140	31	72	73	350	25	77	78	350	25
Selenium	100	3	6	2	3	1	3	ND	20	1	6	ND
Silver	100	21	32	14	100	5	10	2	100	8	32	2
Thallium	100	1	3	1	0	ND	ND	ND	17	<1	3	ND
Zinc	100	486	732	389	100	332	830	100	100	358	830	100
1,2-Trans-Dichloroethylene	83	2	4	ND	41	1	5	ND	49	1	5	ND
2,4-Dichlorophenol	83	2	3	ND	72	6	31	ND	74	5	31	ND
Butyl Benzyl Phthalate	83	3	8	ND	0	ND	ND	ND	14	1	8	ND
Chlorobenzene	50	1	2	ND	14	1	2	ND	20	1	2	ND
2,4,6-Trichlorophenol	50	3	11	ND	14	F1	2	ND	20	1	11	ND
Alpha-Endosulfan*	33	617	2,700	ND	0	ND	ND	ND	6	106	2,700	ND
Gamma-BHC*	33	967	12,000	ND	0	ND	ND	ND	6	166	12,000	ND
Beryllium	33	<1	1	ND	14	1	12	ND	17	1	12	ND
1,1-Dichloroethane	17	1	3	ND	10	<1	2	ND	11	<1	2	ND
1,3-Dichlorobenzene	17	<1	2	ND	79	3	10	ND	69	2	10	ND
Fluoranthene	17	<1	1	ND	21	1	12	ND	20	1	12	ND
Anthracene	17	1	3	ND	38	1	6	ND	34	1	6	ND
Pyrene	17	<1	2	ND	21	1	11	ND	20	1	11	ND
Alpha-BHC*	17	733	4,400	ND	0	ND	ND	ND	3	126	4,400	ND
Mercury*	17	333	2,000	ND	66	303	1,000	ND	57	309	2,000	ND

TABLE 13. COMPARISON OF THE SIX-DAY, 30-DAY, AND COMBINED 36-DAY INFLUENT PRIORITY POLLUTANT CONCENTRATIONS

	Six-Day Study				30-Day Study				36-Day Combined			
Parameter	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)
Trichlorofluoromethane	0	ND	ND	ND	24	1	5	1	20	1	5	ND
Chlorodibromomethane	0	ND	ND	ND	7	<1	1	1	6	<1	1	ND
Vinyl Chloride	0	ND	ND	ND	3	23	660	ND	3	19	660	ND
2,4-Dimethylphenol	0	ND	ND	ND	21	2	21	ND	17	2	21	ND
Acenapthlene	0	ND	ND	ND	28	19	220	ND	23	16	220	ND
Di-n-octyl Phthalate	0	ND	ND	ND	3	<1	7	ND	3	<1	7	ND
Dimethyl Phthalate	0	ND	ND	ND	3	1	17	ND	3	5	17	ND
1,2-Benzanthracene	0	ND	ND	ND	3	2	59	ND	3	2	59	ND
Chrysene	0	ND	ND	ND	7	<1	4	ND	6	<1	4	ND
Fluorene	0	ND	ND	ND	34	1	12	ND	29	1	12	ND
1,2-Diphenylhydrazine	0	ND	ND	ND	17	<1	2	ND	14	<1	2	ND
Bis(2-chloroethyoxy)methane	0	ND	ND	ND	17	3	33	ND	14	3	33	ND
1,1-Dichloroethylene	0	ND	ND	ND	14	3	60	ND	11	3	60	ND
Acenaphthylene	0	ND	ND	ND	14	<1	6	ND	11	<1	6	ND
Parachlorometa Cresol	0	ND	ND	ND	10	<1	4	ND	9	<1	4	ND
2-Chlorophenol	0	ND	ND	ND	10	1	24	ND	9	1	24	ND
1,1,2-Trichloroethane	0	ND	ND	ND	7	<1	2	ND	6	<1	2	ND
1,1,2,2-Tetrachloroethane	0	ND	ND	ND	7	<1	8	ND	6	<1	8	ND
1,2-Dichloropropane	0	ND	ND	ND	7	<1	1	ND	6	<1	1	ND
1,3-Dichloropropylene	0	ND	ND	ND	7	<1	1	ND	6	<1	1	ND
2,4-Dinitrophenol	0	ND	ND	ND	7	<1	4	ND	6	<1	4	ND
Carbon Tetrachloride	0	ND	ND	ND	3	<1	1	ND	3	<1	1	ND
1,2-Dichloroethane	0	ND	ND	ND	3	<1	1	ND	3	<1	1	ND
Methyl Chloride	0	ND	ND	ND	3	12	350	ND	3	10	350	ND
4-Nitrophenol	0	ND	ND	ND	3	1	36	ND	3	1	36	ND
Bis(2-chloroethyl)ether	0	ND	ND	ND	3	<1	4	ND	3	<1	4	ND
N-Nitrosodi-N-Propylamine	0	ND	ND	ND	3	1	28	ND	3	<1	28	ND

ND - Not detected
< - Less than
* - Mercury and pesticide concentrations are in ng/l
Pollutants not listed were not detected

TABLE 14. COMPARISON OF THE SIX-DAY, 30-DAY, AND COMBINED 36-DAY SECONDARY EFFLUENT PRIORITY POLLUTANT CONCENTRATIONS

	Six-Day Study				30-Day Study				36-Day Combined Study			
Parameter	Percent Occurrence	Average Concen-tration (µg/l)	Maximum Concen-tration (µg/l)	Minimum Concen-tration (µg/l)	Percent Occurrence	Average Concen-tration (µg/l)	Maximum Concen-tration (µg/l)	Minimum Concen-tration (µg/l)	Percent Occurrence	Average Concen-tration (µg/l)	Maximum Concen-tration (µg/l)	Minimum Concen-tration (µg/l)
Benzene	100	2	3	1	100	4	18	1	100	4	18	1
1,1,1-Trichloroethane	80	2	2	ND	50	5	65	ND	54	5	65	ND
Chloroform	100	24	40	15	100	37	62	11	100	36	62	11
Ethylbenzene	60	1	3	ND	60	4	22	ND	60	4	22	ND
Methylene Chloride	100	11	31	5	100	82	820	14	100	72	820	5
Tetrachloroethylene	100	2	3	1	83	7	43	ND	92	6	43	ND
Toluene	100	56	180	13	97	54	670	ND	97	54	670	ND
Trichloroethylene	20	<1	1	ND	63	4	58	ND	57	4	58	ND
Pentachlorophenol	67	3	7	ND	7	<1	2	ND	17	1	7	ND
Phenol	100	25	76	1	93	40	520	ND	94	37	520	ND
1,2,4-Trichlorobenzene	100	8	16	3	63	6	48	ND	69	7	48	ND
1,2-Dichlorobenzene	33	1	2	ND	3	1	25	ND	8	1	25	ND
1,4-Dichlorobenzene	0	ND	ND	ND	20	1	11	ND	17	1	11	ND
Naphthalene	100	8	24	1	10	1	15	ND	25	2	24	ND
Bis(2-ethylhexyl) Phthalate	100	8	25	2	47	10	220	ND	56	10	220	ND
Di-n-Butyl Phthalate	100	2	3	1	30	2	19	ND	42	2	19	ND
Diethyl Phthalate	100	3	6	1	50	6	37	ND	58	5	37	ND
Phenanthrene	17	<1	2	0	0	ND	ND	ND	3	<1	2	ND
Antimony	100	6	8	1	7	<1	10	ND	22	1	10	ND
Arsenic	100	4	6	3	7	1	14	ND	22	2	14	ND
Cadmium	100	6	7	5	13	2	29	ND	28	3	29	ND
Chromium	100	39	69	10	90	51	430	ND	92	49	430	ND
Copper	83	10	20	ND	67	21	140	ND	69	19	140	ND
Cyanide	100	115	160	72	100	88	603	12	100	92	603	12
Lead	83	64	90	ND	10	5	57	ND	22	15	90	ND
Nickel	100	82	103	66	50	39	170	ND	58	46	170	ND
Selenium	100	3	5	2	0	ND	ND	ND	17	1	5	ND
Silver	100	2	3	1	83	1	5	ND	86	1	5	ND
Thallium	100	1	2	1	0	ND	ND	ND	17	<1	2	ND
Zinc	100	94	121	77	100	100	200	35	100	99	200	35
1,2-Trans-Dichloroethylene	0	ND	ND	ND	0	ND	ND	ND	0	<10	ND	ND
2,4-Dichlorophenol	83	2	3	ND	60	3	17	ND	64	3	17	ND
Butyl Benzyl Phthalate	33	1	3	ND	0	ND	ND	ND	6	<1	3	ND
Chlorobenzene	0	ND	ND	ND	7	<1	2	ND	6	<1	2	ND
2,4,6-Trichlorophenol	67	2	3	ND	13	<1	6	ND	22	1	6	ND
Alpha-Endosulfan[a]	0	ND	ND	ND	0	ND	ND	ND	0	<1000	ND	ND
Gamma-BHC[a]	17	233	1400	ND	0	ND	ND	ND	3	39	1400	ND
1,3-Dichlorobenzene	0	ND	ND	ND	50	2	11	ND	42	1	11	ND
Fluoranthene	0	ND	ND	ND	3	<1	ND	ND	3	<1	ND	ND
Mercury[a]	0	ND	ND	ND	7	20	300	ND	6	17	300	ND

TABLE 14. COMPARISON OF THE SIX-DAY, 30-DAY, AND COMBINED 36-DAY SECONDARY EFFLUENT PRIORITY POLLUTANT CONCENTRATIONS

	Six-Day Study				30-Day Study				36-Day Combined			
Parameter	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)	Percent Occurrence	Average Concentration (μg/l)	Maximum Concentration (μg/l)	Minimum Concentration (μg/l)
Trichlorofluoromethane	0	ND	ND	ND	17	<1	5	1	14	<1	5	ND
2,4-Dimethylphenol	33	3	10	ND	37	3	17	ND	36	3	17	ND
Acenapthlene	50	2	7	ND	13	<1	43	ND	19	1	43	ND
Di-n-octyl Phthalate	0	ND	ND	ND	10	3	57	ND	8	3	57	ND
Dimethyl Phthalate	33	1	2	ND	10	6	28	ND	14	5	28	ND
Fluorene	0	ND	ND	ND	11	<1	1	ND	11	<1	1	ND
2-Chlorophenol	0	ND	ND	ND	6	<1	1	ND	6	<1	1	ND
1,1-Dichloroethylene	0	ND	ND	ND	6	<1	3	ND	6	<1	3	ND
4-Nitrophenol	0	ND	ND	ND	6	1	31	ND	6	1	31	ND
Bis(2-chloroethyoxy)methane	0	ND	ND	ND	3	<1	4	ND	3	<1	4	ND
Acenaphthylene	0	ND	ND	ND	3	<1	2	ND	3	<1	2	ND
Parachlorometa Cresol	0	ND	ND	ND	3	<1	3	ND	3	<1	3	ND
1,1,2-Trichloroethane	0	ND	ND	ND	3	<1	2	ND	3	<1	2	ND
1,1,2,2-Tetrachloroethane	0	ND	ND	ND	3	<1	3	ND	3	<1	3	ND
2-Nitrophenol	0	ND	ND	ND	3	<1	1	ND	3	<1	1	ND

ND - Not detected
< - Less than
* - Mercury and pesticide concentrations are in ng/l
Pollutants not listed were not detected

The secondary sludge solids concentration and the priority toxic pollutant analytical results were much more consistent than those of the primary sludge. During the combined 36-day study, six metals plus cyanide were detected 100 percent of the time and lead was detected 97 percent of the time in the primary sludge. The only organic pollutants detected in the secondary sludge at significant concentrations during the study were toluene and bis(2-ethylhexyl)phthalate. Average metal concentrations for the six-day and 30-day studies also reflected the priority pollutant metals' tendency to concentrate in the sludge.

INFLUENT VARIABILITY ANALYSIS

An evaluation was undertaken to describe the influent data sets during the six-day and 30-day studies and to assess whether these data are comparable. The purpose of this evaluation is to determine whether the initial six-day influent pollutant concentrations are representative of the long-term influent pollutant concentrations. Summaries of percent occurrences (as discussed in the previous section), means, ranges and standard deviations were compiled to accomplish this objective. It should be noted that no major changes in the industrial dischargers tributary to the treatment plant or the characteristics of their wastewater which would impact this analysis were known to exist.

Table 15 presents: 1) a more detailed comparison of the influent variability for the 30-day and six-day studies for priority pollutants detected at least 50 percent of the time during the combined 36-day period; and 2) a comparison of the variability of the conventional parameters biochemical oxygen demand (BOD_5), and total suspended solids (TSS). Mean values generally compared well. For example, the six-day and 30-day average concentrations for benzene (14 μg/ℓ and 18 μg/ℓ), chloroform (77 μg/ℓ and 73 μg/ℓ), ethylbenzene (20 μg/ℓ and 23 μg/ℓ), bis(2-ethylhexyl)phthalate (14 μg/ℓ and 12 μg/ℓ) and chromium (226 μg/ℓ for both periods) are very similar. Of further interest is the dispersion of the separate data sets around the respective mean values as described by the standard deviation. For example, ethylbenzene and chromium had similar mean concentrations during the 30-day and six-day periods. However, the lower standard deviation for ethylbenzene clearly demonstrates that the repeatability of the ethylbenze concentrations is much more probable.

The coefficient of variation, which is defined as the ratio of the pollutant standard deviation to the mean concentration, presents a relative comparison of pollutant distributions. The lower the coefficient of variation, the narrower the data distribution. Higher coefficient values indicate a wide distribution of the data. During the 30-day study, the coefficient of variation was greater than one for 15 of the 26 toxic pollutants detected in the influent 50 percent or more of the time. This may have been due to highly varied pollutant concentrations in the influent.

The six-day data compare quite well to the 30-day data. Of the 26 toxic pollutants listed in Table 15, the concentrations of all but five pollutants (phenol, 1,2,4-trichlorobenzene, naphthalene, copper and cyanide) from the six-day study were within one standard deviation of the mean concentrations for the 30-day study. Cyanide was the only parameter that showed a wide-spread difference between the 30-day and six-day studies. Analytical interferences present during the six-day study are suspected as having caused this discrepancy.

TABLE 15. INFLUENT VARIABILITY ANALYSIS

Parameter(1)	30-Day Study		Six-Day Study	
	Mean (μg/ℓ)	Standard Deviation (μg/ℓ)	Mean (μg/ℓ)	Standard Deviation (μg/ℓ)
Volatiles				
Benzene	18	12	14	8
1,1,1-Trichloroethane	20	49	43	49
Chloroform	73	36	77	59
1,2-Trans-Dichloroethylene	1	1	2	1
Ethylbenzene(2)	23	18	20	17
Methylene Chloride(2)	88	86	40	30
Toluene(2)	321	325	378	236
Trichloroethylene	26	51	10	12
Tetrachloroethylene	52	87	81	52
Acids				
Phenol	201	155	448	209
2,4-Dichlorophenol	5	7	2	2
Base/Neutrals				
1,2,4-Trichlorobenzene	17	22	100	45
1,3-Dichlorobenzene	2	6	1	1
1,4-Dichlorobenzene	5	8	4	3
Naphthalene	11	11	55	45
Bis(2-Ethylhexyl) Phthalate	12	15	14	7
Di-N-Butyl Phthalate	5	14	4	2
Diethyl Phthalate	4	8	6	3
Phenanthrene	1	2	3	1
Metals				
Chromium	225	527	226	160
Copper	77	25	123	24
Cyanide	83	84	4747	1664
Mercury(ng/1)	303	270	333	816
Nickel	73	76	98	37
Silver	5	2	21	7
Zinc	332	164	486	132
Conventional				
BOD$_5$	303	115	435	112
TSS	232	93	327	95

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1 Influent variability analysis conducted on priority toxic pollutants detected 50 percent of the time or greater in addition to lead and cadmium for combined 36-day period.

2 Outlier values were removed from data base.

ESTIMATED POLLUTANT LOADS FROM INDUSTRIAL SOURCES

The influent wastewater pollutant loads were monitored on a daily basis throughout the combined 36-day period. Table 16 presents the summary of the day of the week average influent pollutant loads for priority toxic pollutants detected in the influent waste stream 50 percent or more of the time as well as the averages for BOD5 and COD. Because the influent waste stream includes combined sewer flow resulting from storm events, several daily loads were omitted so that the day of week averages would not be distorted. For example, on February 11, 1981, the lead load was omitted due to an increase by an approximate factor of 12 caused by the combined sewer flow.

Data presented in Table 16 indicate that the majority of the priority toxic pollutant loads occur Monday through Friday. Some loads occur in a well-defined pattern throughout the week, but most do not exhibit any particular weekday trend. Figure 3 is an example of the daily variation in the mass load to the MBWWTP.

In order to estimate the percent of industrial contribution per pollutant, the average Sunday loads for each pollutant were assumed to represent the combined residential/commercial contribution. Realizing that a limited number of industrial processes discharge to the MBWWTP on Sundays, the industrial load based on this assumption is conservative. The estimated percent industrial contribution was calculated by subtracting the residential/commercial contribution (average Sunday loads) from the average weekday loads and then dividing by the average week day loads. The calculated estimates are comparable with the available data provided by the MBWWTP personnel. The industrial contribution of 65 percent BOD5 coincides exactly with MBWWTP's records, while the 68 percent COD contribution is comparable with the 75 percent value noted by MBWWTP.

Other pollutants for which data are available for comparison are: cadmium (66 percent for the 36-day study versus 88 percent from the MBWWTP records); chromium (87 percent for the 36-day study versus 95 percent from MBWWTP records); copper (61 percent for the 36-day study versus 57 percent from MBWWTP records); cyanide (71 percent for the 36-day study versus 57 percent from MBWWTP records); lead (48 percent for the 36-day study versus 86 percent from MBWWTP records); mercury (62 percent for the 36-day study versus 85 percent from MBWWTP records); nickel (69 percent for the 36-day study versus 94 percent from MBWWTP records); silver (86 percent for the 36-day study versus 73 percent from MBWWTP records); and zinc (69 percent for the 36-day study versus 61 percent from MBWWTP records). The industrial mass loading for total metals was about 70 percent. With the exception of cyanide, most comparisons are close. As previously mentioned, the percent industrial contribution for the 30-day study is conservative since it is based on the assumption that no industrial discharges occur on Sunday.

Extending this industrial pollutant calculation to organic pollutants, the total industrial volatile organic contribution averaged 54 percent (ranging from 84 percent for tetrachloroethylene to 35 percent for 1,1,1-trichloroethane); the acid extractable organic contribution averaged 30 percent; and the base/neutral extractable organic contribution averaged approximately 76 percent.

TABLE 16. DAY OF THE WEEK AVERAGE INFLUENT POLLUTANT LOADS FOR THE MBWWTP

Parameter	POUNDS Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday Average	Estimated Industrial Loading Contribution(1)
Volatiles									
Benzene	4.1	11	11	10	5.1	3.7	4.3	8.2	48%
1,1,1-Trichloroethane	4.5	4.6	4.1*	4.5	2.5	4.0	2.6	4.0	35%
Chloroform	40	42	36	37	23	14	7.1	36	80%
1,2-Trans-Dichloroethylene	1.3	2.3	2.2	2.1	0.86	0.95	0.66	1.7	62%
Ethylbenzene	9.7	13	7.7	14	10	3.2	4.1	11	63%
Methylene Chloride	20	26	32	30	24*	25	15	26	43%
Tetrachloroethylene	17	28	17	28	19	7.1	3.4	22	84%
Toluene	103	113	103*	332	96	96	84	149	53%
Trichloroethylene	21	5.3	17	3.7	3.9	9.6	2.7	10	73%
Acids									
Phenol	85	84	95	147	72	70	68	97	30%
2,4-Dichlorophenol	1.1	2.6	2.5	4.3	0.72	1.2	2.3	2.2	47%
Base/Neutrals									
1,2,4-Trichlorobenzene	16	11	13	21	11	6.0	1.0	14	93%
1,3-Dichlorobenzene	0.82	1.4	0.95	0.74	1.1	0.22	0.39	1.0	61%
1,4-Dichlorobenzene	2.2	0.81	1.9	6.0	2.3	0.74	0	2.6	100%
Naphthalene	4.6	9.0	14	8.1	7.6	3.9	3.6	8.7	58%
Bis (2-Ethylhexyl) Phthalate	13	2.2	2.9	1.9	4.0	4.0	2.3	4.8	52%
Di-N-Butyl Phthalate	0.56	0.97	1.4	5.2	1.9	1.9	0.69	2.0	66%
Diethyl Phthalate	0.29	1.5	3.3	1.7	3.0	1.6	0.44	2.0	77%
Phenanthrene	0.30	0.15	0.31	0.71	0.56	0.64	0.12	0.41	70%
Metals									
Cadmium	4.2	3.1	2.0	2.6	1.5	1.3	0.90	2.7	66%
Chromium	58	90	60	79	63	52*	9.0	70	87%
Copper	34	45	45	38	29	26	15	38	61%
Cyanide	62*	26*	21*	37*	56*	8.9*	12	40	71%
Lead	21	26	36	24	19	18	13	25	48%
Mercury	0.2+	0.16+	0.26+	0.14+	0.16+	0.12+	0.07+	0.18+	62%
Nickel	25	25	96	48	31	14	14	45	69%
Silver	3.2	3.4	4.7	8.9	3.7	1.9	0.64	4.8	86%
Zinc	161	146	209	157	121	82	49	159	69%
Conventional									
BOD	144,500	135,600	158,600	163,800	103,800	99,570	49,600	141,300	65%
TSS	279,600	267,600	314,100	348,800	232,700	181,500	90,370	288,600	68%

(1) For weekdays - Monday through Friday.

* Outliers have been removed from the data base.

+ Values are 10^{-3} pounds

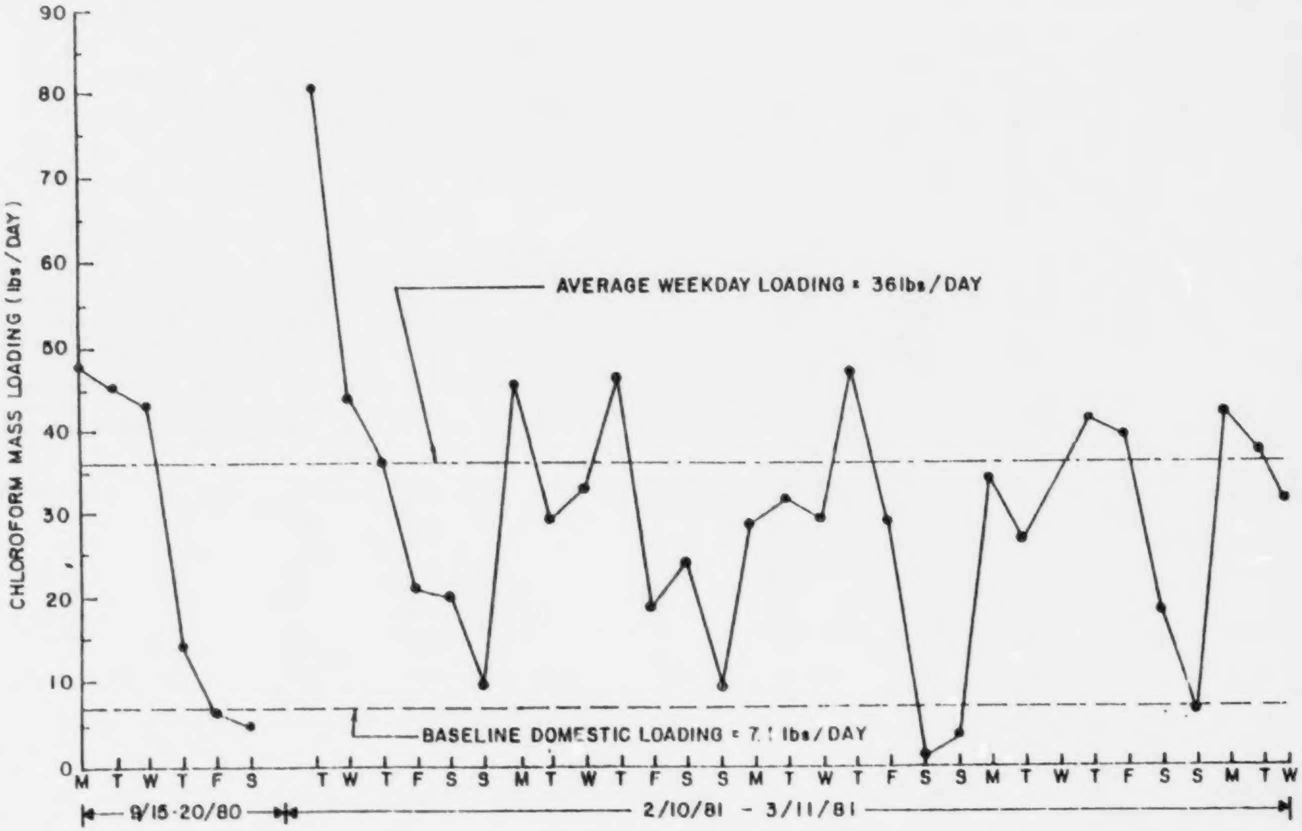

FIGURE 3. DAILY CHLOROFORM MASS LOADING GRAPH

TREATMENT REDUCTION OF PRIORITY POLLUTANTS

Treatment efficiencies for selected conventional and non-conventional pollutants and for priority toxic pollutants were calculated for the six-day, 30-day, and 36-day studies. Tables 17, 18, and 19 summarize the analytical data for the combined 36-day study, the 30-day study, and the six-day study, respectively; calculated percent removals are presented for each study. For this evaluation, daily concentrations recorded as less than the detection limit in both the influent and effluent were assigned a zero value; zero was used as a data point in calculating average values. The daily percent removals presented in Appendix C were calculated using zero for influent concentrations less than the detection limit and the detection limit for secondary effluent concentrations reported as less than the detection limit.

Table 20 presents the mass pollutant removals for the conventional pollutants BOD5 and TSS; for the toxic pollutants lead and cadmium; and for the priority toxic pollutant compounds detected in the influent over 50 percent of the time during the combined 36-day study. Influent, primary effluent, and secondary effluent concentrations reported as less than the detection limit were assigned a zero concentration; zero was used as a data point when the average values were calculated.

As shown in Table 20, volatile organic pollutant removals through primary treatment ranged from 42 percent for trichloroethylene to no reduction for 1,2 trans-dichloroethylene and ethylbenzene. Generally, volatile organic pollutants were not reduced as a result of primary treatment. The activated sludge process significantly removed the volatile organic pollutants from the waste stream. These compounds were not notably concentrated in the waste activated sludge. These observations suggest that volatile organic compounds are either air stripped or biodegraded during secondary treatment. Secondary treatment percent removals varied from 100 for 1,2 trans-dichloroethylene to 47 percent for methylene chloride.

The acid extractable organic compounds (phenol and 2,4-dichlorophenol) were not significantly removed during primary treatment, but were reduced by 92 and 46 percent, respectively, through secondary treatment.

The base/neutral extractable organic compounds were present at very low concentrations in the influent. Several of these pollutants [1,2,4-trichlorobenzene, naphthalene, bis(2-ethylhexyl)phthalate, phenanthrene, pyrene and fluoranthene] exhibited an affinity to concentrate in the primary and WAS. These pollutants may be removed from the wastewater by accumulating or preferentially adsorbing (in the case of hydrophobic compounds) onto settleable or floatable solids. The secondary removals for base/neutrals ranged from 92 percent for naphthalene to six percent for di-n-butyl phthalate. Pesticides were not detected in any of the waste streams throughout the 30-day period.

With the exception of chromium and nickel, which showed minimal removal as a result of primary treatment, the primary system removal efficiency for the priority toxic pollutant metals was approximately 20 percent. Metal primary treatment removals were not of the expected magnitude. The expected primary treatment efficiency for suspended solids was also low with a removal of only

TABLE 17

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	326	45	86	297	10906	4116
	TOTAL SUSP. SOLIDS	MG/L	249	34	86	176	25110	6170
	COD	MG/L	663	165	75	599	40361	11011
	OIL & GREASE	MG/L	30	6	84	27	3678	482
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	795	116	85	836	1242	186
	TOTAL SOLIDS	MG/L	1194	933	22	1134	28097	6896
	TOTAL DISS. SOLIDS	MG/L	915	886	3	938	1783	947
	SETTLEABLE SOLIDS	ML/L	9	< 1	96	3	973	939
	TOTAL VOLATILE SOLIDS	MG/L	338	166	51	282	14003	4464
	VOLATILE DISS. SOLIDS	MG/L	188	148	21	190	754	314
	TOTAL VOL. SUS. SOLIDS	MG/L	158	24	85	104	14697	4279
	AMMONIA NITROGEN	MG/L	16	10	38	15	26	15
	TOC	MG/L	239	60	75	219	3372	1354
VOLATILES	BENZENE	UG/L	17	4	79	16	16	2
	CARBON TETRACHLORIDE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	CHLOROBENZENE	UG/L	< 1	< 1	70	< 1	6	< 1
	1,2-DICHLOROETHANE	UG/L	< 1	N-D	-	N-D	4	N-D
	1,1,1-TRICHLOROETHANE	UG/L	24	5	81	21	80	3
	1,1-DICHLOROETHANE	UG/L	< 1	N-D	-	< 1	17	N-D
	1,1,2-TRICHLOROETHANE	UG/L	< 1	< 1	33	6	53	< 1
	1,1,2,2-TETRACHLOROETHANE	UG/L	< 1	< 1	77	N-D	< 1	N-D
	CHLOROETHANE	UG/L	L 1	N-D	-	N-D	N-D	< 1
	CHLOROFORM	UG/L	74	36	52	72	62	17
	1,1-DICHLOROETHYLENE	UG/L	3	< 1	96	< 1	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	L 1	8	1	13	N-D
	1,2-DICHLOROPROPANE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	23	4	83	29	120	8
	METHYLENE CHLORIDE	UG/L	81	72	12	86	29	29
	METHYL CHLORIDE	UG/L	10	N-D	-	2	N-D	N-D
	DICHLOROBROMOMETHANE	UG/L	L 1	L 1	-	N-D	< 1	N-D
	TRICHLOROFLUOROMETHANE	UG/L	< 1	< 1	45	< 1	< 1	N-D
	DICHLORODIFLUOROMETHANE	UG/L	N-D	N-D	-	N-D	1	< 1
	CHLORODIBROMOMETHANE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	57	6	89	46	103	12
	TOLUENE	UG/L	330	54	84	363	779	83
	TRICHLOROETHYLENE	UG/L	23	4	84	16	329	4
	VINYL CHLORIDE	UG/L	19	N-D	-	< 1	< 1	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	< 1	< 1	20	< 1	N-D	N-D
	PARACHLOROMETA CRESOL	UG/L	< 1	< 1	58	< 1	N-D	N-D
	2-CHLOROPHENOL	UG/L	< 1	< 1	93	< 1	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	5	3	46	6	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	2	3	-	3	N-D	N-D
	2-NITROPHENOL	UG/L	N-D	< 1	-	2	N-D	N-D
	4-NITROPHENOL	UG/L	1	1	-	N-D	N-D	11
	2,4-DINITROPHENOL	UG/L	< 1	N-D	-	< 1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	2	< 1	75	2	< 1	4
	PHENOL	UG/L	244	37	85	262	211	6

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <-LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 17

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	ACENAPHTHENE	UG/L	16	2	90	11	13	N-D
	BENZIDINE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	31	7	79	27	1136	99
	HEXACHLOROBENZENE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	HEXACHLOROETHANE	UG/L	N-D	N-D	-	N-D	1	N-D
	BIS(2-CHLOROETHYL) ETHER	UG/L	< 1	N-D	-	< 1	N-D	N-D
	2-CHLORONAPHTHALENE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	1,2-DICHLOROBENZENE	UG/L	1	< 1	37	2	53	2
	1,3-DICHLOROBENZENE	UG/L	2	1	37	2	22	N-D
	1,4-DICHLOROBENZENE	UG/L	5	< 1	87	5	66	N-D
	2,6-DINITROTOLUENE	UG/L	N-D	N-D	-	N-D	2	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	FLUORANTHENE	UG/L	< 1	< 1	84	< 1	194	15
	4-CHLOROPHENYL PHENYL ETHER	UG/L	N-D	N-D	-	N-D	3	N-D
	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	N-D	N-D	-	< 1	N-D	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	3	< 1	96	2	N-D	N-D
	ISOPHORONE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	NAPHTHALENE	UG/L	19	2	90	22	606	40
	N-NITROSODIPHENYLAMINE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	N-NITROSODI-N-PROPYLAMINE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	13	10	24	15	1529	194
	BUTYL BENZYL PHTHALATE	UG/L	< 1	< 1	74	< 1	100	28
	DI-N-BUTYL PHTHALATE	UG/L	5	2	67	3	73	9
	DI-N-OCTYL PHTHALATE	UG/L	< 1	3	-	2	4	N-D
	DIETHYL PHTHALATE	UG/L	5	5	-	8	31	N-D
	DIMETHYL PHTHALATE	UG/L	< 1	2	-	1	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	2	N-D	-	N-D	41	4
	BENZO (A)PYRENE	UG/L	N-D	N-D	-	N-D	26	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	26	1
	CHRYSENE	UG/L	< 1	N-D	-	< 1	47	3
	ACENAPHTHYLENE	UG/L	< 1	< 1	84	< 1	4	2
	ANTHRACENE	UG/L	< 1	N-D	-	< 1	97	3
	FLUORENE	UG/L	< 1	< 1	88	< 1	46	N-D
	PHENANTHRENE	UG/L	1	< 1	95	1	189	2
	INDENO(1,2,3-C,D) PYRENE	UG/L	N-D	N-D	-	N-D	4	N-D
	PYRENE	UG/L	< 1	L 1	-	< 1	127	5
PESTICIDES	ALPHA-ENDOSULFAN	NG/L	106	L 1000	-	N-D	N-D	N-D
	ALPHA-BHC	NG/L	126	L 1000	-	L 1000	2	N-D
	GAMMA-BHC	NG/L	166	39	77	106	N-D	N-D
METALS	ANTIMONY	UG/L	4	1	69	2	92	19
	ARSENIC	UG/L	4	2	60	3	666	120
	BERYLLIUM	UG/L	< 1	L 1	-	< 1	71	24
	CADMIUM	UG/L	5	3	47	4	175	64
	CHROMIUM	UG/L	226	49	78	232	13225	5549
	COPPER	UG/L	85	19	78	68	7453	1226
	CYANIDE	UG/L	883	92	90	692	8134	576
	LEAD	UG/L	45	15	67	41	5821	742
	MERCURY	NG/L	309	17	95	167	34501	1861
	NICKEL	UG/L	78	46	41	76	4076	720

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <-LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 17

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SELENIUM	UG/L	< 1	< 1	44	< 1	7	< 1
	SILVER	UG/L	8	1	85	14	625	196
	THALLIUM	UG/L	< 1	< 1	15	< 1	L 170	L 50
	ZINC	UG/L	358	99	72	299	24686	3842
NON-CONV. METALS	ALUMINUM	UG/L	5842	605	90	5108	NOT RUN	NOT RUN
	BARIUM	UG/L	121	30	76	107	NOT RUN	NOT RUN
	BORON	UG/L	136	129	5	132	NOT RUN	NOT RUN
	CALCIUM	MG/L	47	44	7	47	NOT RUN	NOT RUN
	COBALT	UG/L	16	13	20	19	NOT RUN	NOT RUN
	IRON	UG/L	3200	444	86	2548	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	6	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	288	201	30	280	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	7	4	50	6	NOT RUN	NOT RUN
	SODIUM	MG/L	253	258	-	255	NOT RUN	NOT RUN
	TIN	UG/L	11	9	18	9	NOT RUN	NOT RUN
	TITANIUM	UG/L	22	19	11	21	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	< 1	99	3	NOT RUN	NOT RUN
	YTTRIUM	UG/L	11	L 5	54	10	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <-LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 17

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	72	1673	< 1
	TOTAL SUSP. SOLIDS	MG/L	409	1535	1
	COD	MG/L	323	2710	L 25
	OIL & GREASE	MG/L	14	153	2
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	224	362	4
	TOTAL SOLIDS	MG/L	1760	3182	124
	TOTAL DISS. SOLIDS	MG/L	1310	5226	108
	SETTLEABLE SOLIDS	ML/L	L 1	200	L 1
	TOTAL VOLATILE SOLIDS	MG/L	301	1326	55
	VOLATILE DISS. SOLIDS	MG/L	159	378	43
	TOTAL VOL. SUS. SOLIDS	MG/L	97	937	< 1
	AMMONIA NITROGEN	MG/L	71	87	L 1
	TOC	MG/L	139	438	4
VOLATILES	BENZENE	UG/L	2	10	1
	CHLOROBENZENE	UG/L	L 1	35	< 1
	1,1,1-TRICHLOROETHANE	UG/L	< 1	< 1	< 1
	1,1-DICHLOROETHANE	UG/L	N-D	2	N-D
	CHLOROETHANE	UG/L	N-D	< 1	N-D
	CHLOROFORM	UG/L	L 1	< 1	32
	1,2-TRANS-DICHLOROETHYLENE	UG/L	L 1	16	N-D
	ETHYLBENZENE	UG/L	1	231	4
	METHYLENE CHLORIDE	UG/L	10	13	7
	DICHLOROBROMOMETHANE	UG/L	N-D	N-D	3
	TRICHLOROFLUOROMETHANE	UG/L	< 1	< 1	< 1
	CHLORODIBROMOMETHANE	UG/L	N-D	N-D	< 1
	TOLUENE	UG/L	7	140	5
	VINYL CHLORIDE	UG/L	N-D	2	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	< 1	N-D	N-D
	PARACHLOROMETA CRESOL	UG/L	N-D	< 1	N-D
	2-CHLOROPHENOL	UG/L	< 1	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	< 1	< 1	N-D
	2,4-DIMETHYLPHENOL	UG/L	3	N-D	N-D
	PENTACHLOROPHENOL	UG/L	2	N-D	N-D
	PHENOL	UG/L	52	38	L 1
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	< 1	L 1
	1,2,4-TRICHLOROBENZENE	UG/L	2	81	N-D
	1,2-DICHLOROBENZENE	UG/L	< 1	7	N-D
	1,3-DICHLOROBENZENE	UG/L	1	21	N-D
	1,4-DICHLOROBENZENE	UG/L	< 1	17	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	2	< 1	N-D
	FLUORANTHENE	UG/L	< 1	4	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	1	< 1	N-D
	NAPHTHALENE	UG/L	14	63	N-D
	NITROBENZENE	UG/L	N-D	4	N-D
	N-NITROSODIPHENYLAMINE	UG/L	N-D	3	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	13	57	58

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <-LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 17

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY AND 30-DAY STUDIES COMBINED
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
BASE-NEUTRALS	BUTYL BENZYL PHTHALATE	UG/L	N-D	5	N-D
	DI-N-BUTYL PHTHALATE	UG/L	1	7	1
	DI-N-OCTYL PHTHALATE	UG/L	3	12	2
	DIETHYL PHTHALATE	UG/L	10	10	L 1
	1,2-BENZANTHRACENE	UG/L	N-D	1	N-D
	CHRYSENE	UG/L	< 1	< 1	N-D
	ACENAPHTHYLENE	UG/L	5	N-D	N-D
	ANTHRACENE	UG/L	2	5	N-D
	1,12-BENZOPERYLENE	UG/L	N-D	1	N-D
	FLUORENE	UG/L	1	4	N-D
	PHENANTHRENE	UG/L	2	9	N-D
	1,2:5,6-DIBENZANTHRACENE	UG/L	N-D	1	N-D
	PYRENE	UG/L	< 1	2	N-D
PESTICIDES	ENDRIN ALDEHYDE	NG/L	N-D	283	N-D
	DELTA-BHC	NG/L	N-D	217	N-D
METALS	ANTIMONY	UG/L	< 1	5	< 1
	ARSENIC	UG/L	6	65	< 1
	BERYLLIUM	UG/L	L 1	3	L 1
	CADMIUM	UG/L	2	22	2
	CHROMIUM	UG/L	120	843	5
	COPPER	UG/L	88	727	12
	CYANIDE	UG/L	460	33	9
	LEAD	UG/L	75	568	14
	MERCURY	NG/L	533	6217	1500
	NICKEL	UG/L	57	350	2
	SELENIUM	UG/L	< 1	4	< 1
	SILVER	UG/L	5	76	< 1
	THALLIUM	UG/L	< 1	2	L 10
	ZINC	UG/L	316	2370	30
NON-CONV. METALS	ALUMINUM	UG/L	5015	36483	41
	BARIUM	UG/L	178	913	22
	BORON	UG/L	166	225	L 20
	CALCIUM	MG/L	256	336	23
	COBALT	UG/L	13	96	13
	IRON	UG/L	5117	23553	62
	MAGNESIUM	MG/L	38	42	4
	MANGANESE	UG/L	1822	2923	3
	MOLYBDENUM	UG/L	L 34	39	L 35
	SODIUM	MG/L	257	256	8
	TIN	UG/L	15	64	10
	TITANIUM	UG/L	7	133	32
	VANADIUM	UG/L	3	33	< 1
	YTTRIUM	UG/L	38	190	L 5

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L=LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D=NOT DETECTED.

TABLE 18

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 30-DAY STUDY

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	303	36	88	207	7720	2825
	TOTAL SUSP. SOLIDS	MG/L	232	33	86	164	21647	6582
	COD	MG/L	598	154	74	552	33867	12107
	OIL & GREASE	MG/L	27	7	75	24	2556	551
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	765	97	87	793	1183	150
	TOTAL SOLIDS	MG/L	1128	887	21	1087	22803	7315
	TOTAL DISS. SOLIDS	MG/L	894	853	5	923	1149	733
	TOTAL VOLATILE SOLIDS	MG/L	336	160	52	283	12706	4656
	VOLATILE DISS. SOLIDS	MG/L	186	137	27	186	335	151
	TOTAL VOL. SUS. SOLIDS	MG/L	150	24	84	97	12365	4505
	AMMONIA NITROGEN	MG/L	15	9	38	15	26	15
	TOC	MG/L	250	62	75	225	3723	1532
VOLATILES	BENZENE	UG/L	18	4	78	17	13	2
	CARBON TETRACHLORIDE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	CHLOROBENZENE	UG/L	< 1	< 1	60	< 1	< 1	< 1
	1,2-DICHLOROETHANE	UG/L	< 1	N-D	-	N-D	4	N-D
	1,1,1-TRICHLOROETHANE	UG/L	20	5	75	21	96	4
	1,1-DICHLOROETHANE	UG/L	< 1	N-D	-	< 1	7	N-D
	1,1,2-TRICHLOROETHANE	UG/L	< 1	< 1	36	7	63	< 1
	1,1,2,2-TETRACHLOROETHANE	UG/L	< 1	< 1	78	N-D	< 1	N-D
	CHLOROETHANE	UG/L	N-D	N-D	-	N-D	N-D	< 1
	CHLOROFORM	UG/L	73	37	49	77	69	18
	1,1-DICHLOROETHYLENE	UG/L	3	< 1	96	< 1	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	< 1	N-D	-	1	< 1	N-D
	1,2-DICHLOROPROPANE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	23	4	81	32	63	9
	METHYLENE CHLORIDE	UG/L	89	82	8	97	21	33
	METHYL CHLORIDE	UG/L	12	N-D	-	2	N-D	N-D
	TRICHLOROFLUOROMETHANE	UG/L	< 1	< 1	47	< 1	N-D	N-D
	CHLORODIBROMOMETHANE	UG/L	< 1	N-D	-	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	52	7	86	47	51	10
	TOLUENE	UG/L	321	54	83	357	515	86
	TRICHLOROETHYLENE	UG/L	26	4	84	18	157	4
	VINYL CHLORIDE	UG/L	23	N-D	-	< 1	< 1	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	< 1	< 1	-	< 1	N-D	N-D
	PARACHLOROMETA CRESOL	UG/L	< 1	< 1	59	< 1	N-D	N-D
	2-CHLOROPHENOL	UG/L	< 1	< 1	93	< 1	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	6	3	49	7	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	2	3	-	3	N-D	N-D
	2-NITROPHENOL	UG/L	N-D	< 1	-	3	N-D	N-D
	4-NITROPHENOL	UG/L	1	2	-	N-D	N-D	13
	2,4-DINITROPHENOL	UG/L	< 1	N-D	-	< 1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	2	< 1	93	< 1	< 1	5
	PHENOL	UG/L	201	40	80	232	223	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	19	2	92	13	16	N-D
	BENZIDINE	UG/L	N-D	N-D	-	< 1	N-D	N-D

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <-LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 18

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 30-DAY STUDY

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	17	6	62	12	684	115
	HEXACHLOROBENZENE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	HEXACHLOROETHANE	UG/L	N-D	N-D	-	N-D	2	N-D
	BIS(2-CHLOROETHYL) ETHER	UG/L	< 1	N-D	-	< 1	N-D	N-D
	2-CHLORONAPHTHALENE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	1,2-DICHLOROBENZENE	UG/L	N D	< 1	-	< 1	63	2
	1,3-DICHLOROBENZENE	UG/L	3	2	36	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	6	< 1	84	5	41	N-D
	2,6-DINITROTOLUENE	UG/L	N-D	N-D	-	N-D	2	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	FLUORANTHENE	UG/L	1	< 1	84	1	196	17
	4-CHLOROPHENYL PHENYL ETHER	UG/L	N-D	N-D	-	N-D	4	N-D
	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	N-D	N-D	-	< 1	N-D	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	3	< 1	96	3	N-D	N-D
	ISOPHORONE	UG/L	N-D	N-D	-	1	N-D	N-D
	NAPHTHALENE	UG/L	12	< 1	94	11	538	46
	N-NITROSODIPHENYLAMINE	UG/L	N-D	N-D	-	< 1	N-D	N-D
	N-NITROSODI-N-PROPYLAMINE	UG/L	< 1	N-D	-	< 1	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	12	10	20	9	770	180
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	< 1	24	33
	DI-N-BUTYL PHTHALATE	UG/L	6	2	68	3	N-D	11
	DI-N-OCTYL PHTHALATE	UG/L	< 1	3	-	3	5	N-D
	DIETHYL PHTHALATE	UG/L	4	6	-	8	37	N-D
	DIMETHYL PHTHALATE	UG/L	< 1	2	-	2	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	2	N-D	-	N-D	37	4
	BENZO (A)PYRENE	UG/L	N-D	N-D	-	N-D	31	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	31	1
	CHRYSENE	UG/L	< 1	N-D	-	< 1	44	4
	ACENAPHTHYLENE	UG/L	< 1	< 1	84	< 1	5	2
	ANTHRACENE	UG/L	< 1	N-D	-	< 1	47	1
	FLUORENE	UG/L	1	< 1	88	< 1	55	N-D
	PHENANTHRENE	UG/L	< 1	N-D	-	< 1	157	1
	INDENO(1,2,3-C,D) PYRENE	UG/L	N-D	N-D	-	N-D	5	N-D
	PYRENE	UG/L	1	N-D	-	< 1	108	2
PESTICIDES	ALPHA-BHC	NG/L	N-D	N-D	-	N-D	3	N-D
METALS	ANTIMONY	UG/L	2	< 1	84	1	91	19
	ARSENIC	UG/L	3	1	64	2	750	139
	BERYLLIUM	UG/L	< 1	L 1	-	< 1	67	23
	CADMIUM	UG/L	4	2	52	3	193	76
	CHROMIUM	UG/L	226	51	77	229	14760	6417
	COPPER	UG/L	77	21	73	65	7110	1380
	CYANIDE	UG/L	83	88	-	101	1010	183
	LEAD	UG/L	26	5	80	27	4509	787
	MERCURY	NG/L	303	20	93	200	34368	1167
	NICKEL	UG/L	73	39	47	64	4388	823
	SELENIUM	UG/L	< 1	L 25	-	L 25	7	L 40
	SILVER	UG/L	5	1	81	5	577	206
	ZINC	UG/L	332	100	70	261	25889	3934

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L=LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D=NOT DETECTED.

TABLE 18

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 30-DAY STUDY

FRACTION	PARAMETER	UNITS	INFLUENT		SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	ALUMINUM	UG/L	5559		554	90	4899	NOT RUN	NOT RUN
	BARIUM	UG/L	110		29	74	100	NOT RUN	NOT RUN
	BORON	UG/L	118		92	22	113	NOT RUN	NOT RUN
	CALCIUM	MG/L	48		46	5	48	NOT RUN	NOT RUN
	COBALT	UG/L	14		11	24	14	NOT RUN	NOT RUN
	IRON	UG/L	2979		433	85	2424	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8		8	4	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	301		217	28	292	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	6		4	27	6	NOT RUN	NOT RUN
	SODIUM	MG/L	231		239	-	239	NOT RUN	NOT RUN
	TITANIUM	UG/L	17		23	-	18	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L	5	-	3	NOT RUN	NOT RUN
	YTTRIUM	UG/L	12	L	5	59	12	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 18

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 30-DAY STUDY
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	70	508	L 1
	TOTAL SUSP. SOLIDS	MG/L	462	933	1
	COD	MG/L	312	1182	L 25
	OIL & GREASE	MG/L	16	82	2
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	233	365	L 5
	TOTAL SOLIDS	MG/L	1842	2354	118
	TOTAL DISS. SOLIDS	MG/L	1378	1422	117
	TOTAL VOLATILE SOLIDS	MG/L	238	850	47
	VOLATILE DISS. SOLIDS	MG/L	134	332	47
	TOTAL VOL. SUS. SOLIDS	MG/L	104	518	< 1
	AMMONIA NITROGEN	MG/L	75	95	L 1
	TOC	MG/L	147	430	4
VOLATILES	BENZENE	UG/L	2	10	2
	CHLOROBENZENE	UG/L	N-D	37	< 1
	1,1,1-TRICHLOROETHANE	UG/L	< 1	< 1	< 1
	1,1-DICHLOROETHANE	UG/L	N-D	3	N-D
	CHLOROFORM	UG/L	N-D	< 1	31
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	18	N-D
	ETHYLBENZENE	UG/L	2	269	4
	METHYLENE CHLORIDE	UG/L	12	15	9
	DICHLOROBROMOMETHANE	UG/L	N-D	N-D	1
	TRICHLOROFLUOROMETHANE	UG/L	< 1	< 1	< 1
	TOLUENE	UG/L	8	146	5
ACID EXTRACT	PARACHLOROMETA CRESOL	UG/L	N-D	< 1	N-D
	2-CHLOROPHENOL	UG/L	< 1	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	< 1	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	4	N-D	N-D
	PHENOL	UG/L	14	17	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	1	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	N-D	7	N-D
	1,3-DICHLOROBENZENE	UG/L	2	25	N-D
	1,4-DICHLOROBENZENE	UG/L	< 1	4	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	2	1	N-D
	FLUORANTHENE	UG/L	< 1	4	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	2	< 1	N-D
	NAPHTHALENE	UG/L	13	41	N-D
	NITROBENZENE	UG/L	N-D	5	N-D
	N-NITROSODIPHENYLAMINE	UG/L	N-D	4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	14	49	67
	DI-N-BUTYL PHTHALATE	UG/L	1	5	1
	DI-N-OCTYL PHTHALATE	UG/L	4	9	3
	DIETHYL PHTHALATE	UG/L	11	9	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	1	N-D
	CHRYSENE	UG/L	< 1	< 1	N-D
	ACENAPHTHYLENE	UG/L	5	N-D	N-D
	ANTHRACENE	UG/L	2	6	N-D

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N D-NOT DETECTED.

TABLE 18

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 30-DAY STUDY
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
BASE-NEUTRALS	1,12-BENZOPERYLENE	UG/L	N-D	1	N-D
	FLUORENE	UG/L	1	5	N-D
	PHENANTHRENE	UG/L	2	5	N-D
	1,2:5,6-DIBENZANTHRACENE	UG/L	N-D	1	N-D
	PYRENE	UG/L	< 1	< 1	N-D
METALS	ANTIMONY	UG/L	L 10	2	L 25
	ARSENIC	UG/L	5	32	L 10
	BERYLLIUM	UG/L	L 1	1	L 1
	CADMIUM	UG/L	L 5	11	L 5
	CHROMIUM	UG/L	130	512	4
	COPPER	UG/L	94	340	11
	CYANIDE	UG/L	12	33	1
	LEAD	UG/L	61	262	L 50
	MERCURY	NG/L	640	2460	L 300
	NICKEL	UG/L	51	212	L 50
	SILVER	UG/L	4	14	L 1
	ZINC	UG/L	340	1184	33
NON-CONV. METALS	ALUMINUM	UG/L	5484	25280	33
	BARIUM	UG/L	192	550	22
	BORON	UG/L	170	186	L 20
	CALCIUM	MG/L	285	284	23
	COBALT	UG/L	15	39	1
	IRON	UG/L	5702	15424	60
	MAGNESIUM	MG/L	38	37	4
	MANGANESE	UG/L	2150	2752	2
	MOLYBDENUM	UG/L	L 10	15	L 10
	SODIUM	MG/L	254	239	8
	TITANIUM	UG/L	4	57	39
	VANADIUM	UG/L	4	20	L 5
	YTTRIUM	UG/L	44	201	L 5

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L=LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 19

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY STUDY

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	435	87	80	346	26833	10567
	TOTAL SUSP. SOLIDS	MG/L	327	38	88	238	42423	4110
	COD	MG/L	975	222	77	830	72833	5533
	OIL & GREASE	MG/L	90	3	97	43	9292	139
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	941	214	77	1047	1535	365
	TOTAL SOLIDS	MG/L	1513	1165	23	1373	54567	4802
	TOTAL DISS. SOLIDS	MG/L	1018	1047	-	1014	4955	2015
	SETTLEABLE SOLIDS	ML/L	9	< 1	96	3	973	939
	TOTAL VOLATILE SOLIDS	MG/L	359	225	37	277	26975	2545
	VOLATILE DISS. SOLIDS	MG/L	196	204	-	209	2849	1128
	TOTAL VOL. SUS. SOLIDS	MG/L	199	26	87	136	26359	3148
	AMMONIA NITROGEN	MG/L	20	13	37	20	26	14
	TOC	MG/L	183	50	73	190	1617	467
VOLATILES	BENZENE	UG/L	14	2	88	13	28	2
	CHLOROBENZENE	UG/L	1	L 1	-	< 1	33	< 1
	1,1,1-TRICHLOROETHANE	UG/L	43	2	96	21	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	< 1	N-D	-	L 1	71	N-D
	CHLOROFORM	UG/L	77	24	69	49	27	9
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	L 1	50	2	74	N-D
	ETHYLBENZENE	UG/L	20	1	94	17	402	5
	METHYLENE CHLORIDE	UG/L	40	13	68	33	67	7
	DICHLOROBROMOMETHANE	UG/L	L 1	L 1	-	N-D	2	N-D
	TRICHLOROFLUOROMETHANE	UG/L	L 1	N-D	-	L 1	6	N-D
	DICHLORODIFLUOROMETHANE	UG/L	N-D	N-D	-	N-D	7	2
	TETRACHLOROETHYLENE	UG/L	81	2	97	39	360	23
	TOLUENE	UG/L	378	56	85	396	2099	67
	TRICHLOROETHYLENE	UG/L	10	< 1	98	5	1189	2
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	3	2	47	< 1	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	2	2	-	2	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	3	-	L 1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	6	3	53	6	N-D	N-D
	PHENOL	UG/L	448	25	94	413	152	34
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	2	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	100	8	92	101	3400	16
	1,2-DICHLOROBENZENE	UG/L	7	< 1	93	10	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	< 1	N-D	-	L 1	132	N-D
	1,4-DICHLOROBENZENE	UG/L	4	L 1	77	5	190	N-D
	FLUORANTHENE	UG/L	< 1	L 1	-	N-D	182	N-D
	NAPHTHALENE	UG/L	55	8	86	74	946	10
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	14	8	40	47	5328	267
	BUTYL BENZYL PHTHALATE	UG/L	3	< 1	74	4	480	N-D
	DI-N-BUTYL PHTHALATE	UG/L	4	2	60	4	435	N-D
	DIETHYL PHTHALATE	UG/L	6	3	53	9	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	< 1	-	N-D	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	65	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	65	N-D
	ANTHRACENE	UG/L	< 1	N-D	-	N-D	348	8

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L-LESS THAN (MAX. DETECTION LIMIT)) <-LESS THAN (AVERAGE CONCENTRATION))
N-D-NOT DETECTED.

TABLE 19
SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY STUDY

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PCNT REM.	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PHENANTHRENE	UG/L	3	< 1	90	3	348	8
	PYRENE	UG/L	< 1	L 1	-	N-D	223	N-D
PESTICIDES	ALPHA-ENDOSULFAN	NG/L	617	L 1000	-	N-D	N-D	N-D
	ALPHA-BHC	NG/L	733	L 1000	-	L 1000	N-D	N-D
	GAMMA-BHC	NG/L	967	233	76	633	N-D	N-D
METALS	ANTIMONY	UG/L	12	6	54	7	95	19
	ARSENIC	UG/L	9	4	53	7	247	23
	BERYLLIUM	UG/L	< 1	L 1	-	< 1	90	27
	CADMIUM	UG/L	10	6	37	9	84	6
	CHROMIUM	UG/L	226	39	83	245	5550	1213
	COPPER	UG/L	123	10	92	84	9167	460
	CYANIDE	UG/L	4747	115	98	3250	43750	2542
	LEAD	UG/L	136	64	53	111	12303	510
	MERCURY	NG/L	333	L 1000	-	L 1000	35167	5333
	NICKEL	UG/L	98	82	17	135	2517	204
	SELENIUM	UG/L	3	3	5	3	3	5
	SILVER	UG/L	21	2	89	58	862	143
	THALLIUM	UG/L	1	1	13	1	L 170	L 37
	ZINC	UG/L	486	94	81	490	30667	1383
NON-CONV. METALS	ALUMINUM	UG/L	7330	859	88	6155	NOT RUN	NOT RUN
	BARIUM	UG/L	173	32	82	143	NOT RUN	NOT RUN
	BORON	UG/L	224	315	-	227	NOT RUN	NOT RUN
	CALCIUM	MG/L	44	35	19	41	NOT RUN	NOT RUN
	COBALT	UG/L	24	23	5	42	NOT RUN	NOT RUN
	IRON	UG/L	4267	496	88	3170	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	10	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	225	125	44	223	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	13	L 35	-	6	NOT RUN	NOT RUN
	SODIUM	MG/L	357	352	1	337	NOT RUN	NOT RUN
	TIN	UG/L	67	56	16	53	NOT RUN	NOT RUN
	TITANIUM	UG/L	46	< 1	99	36	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	< 1	93	4	NOT RUN	NOT RUN
	YTTRIUM	UG/L	3	L 4	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L=LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D=NOT DETECTED.

TABLE 19

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY STUDY
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	83	7500	1
	TOTAL SUSP. SOLIDS	MG/L	141	4546	L 1
	COD	MG/L	380	10400	NOT RUN
	OIL & GREASE	MG/L	3	508	5
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	179	346	26
	TOTAL SOLIDS	MG/L	1400	7324	152
	TOTAL DISS. SOLIDS	MG/L	970	24248	65
	SETTLEABLE SOLIDS	ML/L	L 1	200	L 1
	TOTAL VOLATILE SOLIDS	MG/L	614	3704	94
	VOLATILE DISS. SOLIDS	MG/L	279	606	21
	TOTAL VOL. SUS. SOLIDS	MG/L	64	3030	NOT RUN
	AMMONIA NITROGEN	MG/L	51	48	L 1
	TOC	MG/L	100	480	4
VOLATILES	BENZENE	UG/L	L 1	8	L 1
	CHLOROBENZENE	UG/L	L 1	25	N-D
	CHLOROETHANE	UG/L	N-D	2	N-D
	CHLOROFORM	UG/L	L 1	N-D	37
	1,2-TRANS-DICHLOROETHYLENE	UG/L	L 1	3	N-D
	ETHYLBENZENE	UG/L	L 1	30	L 1
	METHYLENE CHLORIDE	UG/L	L 1	2	L 1
	DICHLOROBROMOMETHANE	UG/L	N-D	N-D	11
	CHLORODIBROMOMETHANE	UG/L	N-D	N-D	2
	TOLUENE	UG/L	2	110	1
	VINYL CHLORIDE	UG/L	N-D	9	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	4	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	2	3	N-D
	PENTACHLOROPHENOL	UG/L	9	N-D	N-D
	PHENOL	UG/L	240	140	L 1
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	13	450	N-D
	1,2-DICHLOROBENZENE	UG/L	2	43	N-D
	1,4-DICHLOROBENZENE	UG/L	L 1	77	N-D
	FLUORANTHENE	UG/L	N-D	7	N-D
	NAPHTHALENE	UG/L	24	170	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	98	1
	BUTYL BENZYL PHTHALATE	UG/L	N-D	30	N-D
	DI-N-BUTYL PHTHALATE	UG/L	1	15	L 1
	DI-N-OCTYL PHTHALATE	UG/L	N-D	23	N-D
	DIETHYL PHTHALATE	UG/L	2	13	L 1
	PHENANTHRENE	UG/L	L 1	27	N-D
	PYRENE	UG/L	N-D	8	N-D
PESTICIDES	ENDRIN ALDEHYDE	NG/L	N-D	1700	N-D
	DELTA-BHC	NG/L	N-D	1300	N-D
METALS	ANTIMONY	UG/L	3	21	2
	ARSENIC	UG/L	8	228	2

POLLUTANTS NOT LISTED WERE NEVER DETECTED
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N-D-NOT DETECTED.

TABLE 19

SUMMARY OF ANALYTICAL DATA

CHATTANOOGA 6-DAY STUDY
ADDITIONAL SAMPLE POINTS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
METALS	BERYLLIUM	UG/L	L 1	11	L 1
	CADMIUM	UG/L	11	76	9
	CHROMIUM	UG/L	70	2500	7
	COPPER	UG/L	53	2660	20
	CYANIDE	UG/L	2700	NOT RUN	50
	LEAD	UG/L	145	2100	82
	MERCURY	MG/L	L 1000	25000	9000
	NICKEL	UG/L	85	1040	13
	SELENIUM	UG/L	4	26	2
	SILVER	UG/L	11	380	2
	THALLIUM	UG/L	1	12	L 1
	ZINC	UG/L	195	8300	16
NON-CONV. METALS	ALUMINUM	UG/L	2670	92500	80
	BARIUM	UG/L	105	2730	24
	BORON	UG/L	144	418	L 2
	CALCIUM	MG/L	110	597	24
	COBALT	UG/L	L 49	380	73
	IRON	UG/L	2190	64200	69
	MAGNESIUM	MG/L	37	65	5
	MANGANESE	UG/L	181	3780	5
	MOLYBDENUM	UG/L	L 34	156	L 35
	SODIUM	MG/L	267	339	10
	TIN	UG/L	91	386	59
	TITANIUM	UG/L	21	509	L 2
	VANADIUM	UG/L	L 1	93	3
	YTTRIUM	UG/L	4	131	L 3

POLLUTANTS NOT LISTED WERE NEVER DETECTED
L=LESS THAN (MAX. DETECTION LIMIT); <=LESS THAN (AVERAGE CONCENTRATION);
N-D-NOT DETECTED.

TABLE 20. SELECTED POLLUTANT MASS PERCENT REMOVALS

	Percent Removal		
Pollutant[1]	Primary Treatment	Secondary Treatment[2]	Overall Treatment
Metals			
Cadmium	25	42	56
Chromium	0	95	79
Copper	21	75	80
Cyanide	0	15	11
Lead	12	69	69
Mercury	21	100	100
Nickel	0	49	49
Silver	17	83	86
Zinc	18	70	75
Volatiles			
Benzene	7	78	80
1,1,1-Trichlorethane	13	80	82
Chloroform	1	56	56
1,2-Trans-Dichloroethylene	0	100	100
Ethylbenzene	0	89	87
Methylene Chloride	16	47	55
Tetrachlorethylene	25	88	91
Toluene	10	86	87
Trichloroethylene	42	78	87
Acids			
Phenol	0	92	91
2,4-Dichlorophenol	2	46	47
Base/Neutrals			
1,2,4-Trichlorobenzene	12	79	82
1,3-Dichlorobenzene	14	30	40
1,4-Dichlorobenzene	0	88	88
Naphthalene	0	92	91
Bis(2-Ethlyhexyl) Phthalate	0	77	57
Di-N-Butyl Phthalate	40	6	44
Diethyl Phthalate	0	36	0
Phenanthrene	0	36	0
Conventional/Non-Conventional			
BOD5	10	86	88
TSS	30	82	87

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[1] Priority toxic pollutants listed were detected in the influent wastewater 50 percent of the time or greater (with the exception lead and cadmium which were detected 46 percent of the time).

[2] Percent removal based on mass removal in activated sludge treatment units alone.

30 percent (average design removal is 60 percent). The treatment process of consequence for the metals at MBWWTP appears to be the activated sludge process. The secondary system effectively transfered the metal masses from the liquid phase to the waste activated sludge. Overall removals fluctuated from greater than 80 percent for copper, silver, and mercury to 56 and 49 percent for cadmium and nickel, respectively.

PRIORITY TOXIC POLLUTANT MASS BALANCE ANALYSES

Mass balances for the primary treatment, secondary treatment, and total treatment processes were calculated for the toxic pollutants cadmium and lead, and for the priority pollutants detected 50 percent of the time or greater in the influent waste stream. Those calculations are useful in evaluating the fate of a particular pollutant as it travels through the treatment process. A net pollutant loss is reflective of the pollutant being biodegraded or reduced in some other fashion. For conservative pollutants, particularly metal fractions, the summation of the influent pollutant loads should equal the summation of the effluent pollutant loads. Table 21 summarizes the mass balance results for the 36-day combined study. When calculating the pollutant load, if the pollutant concentration was reported less than the analytical detection limit, the concentration, and consequently the load, were assumed to be zero.

For the primary treatment analysis, the total influent mass is the sum of the influent waste stream, the digester decant, and vacuum filter filtrate; the primary effluent mass is the sum of the primary effluent waste stream and the primary sludge. The primary treatment results exhibited a net total priority pollutant metals increase of 16 percent; a 10 percent reduction in the volatile organic fraction; a five percent increase in the acid extractable fraction; and a 26 percent net increase in the base/neutral extractable pollutants. Part of the net increase in the pollutants can be attributed to the presence of certain pollutants in the influent waste stream at very low levels (at or near their detection limits). These pollutants tended to concentrate in the sludge streams and were measured, therefore, in the sludge streams rather than in the influent. An interesting fact is that the metal laden filtrate and decant lines are insignificant in the overall mass balance scheme due to the low volume they represent.

Results of the secondary treatment analysis (activated sludge process followed by chlorination) show that the metals increased substantially across the activated sludge process, while the volatiles, acids, and base/neutral fractions were reduced considerably (76 percent, 91 percent, and 56 percent, respectively). The influent secondary treatment mass is equivalent to the primary treatment effluent load; the secondary treatment effluent mass consists of the chlorinated effluent load and the waste activated sludge load. Because the return activated sludge line is an internal recirculation line within the secondary treatment process, the mass associated with the return sludge is not of consequence. Comparison of the total, secondary, and primary mass removals for the volatile organic pollutants strongly supports the theory that volatile toxic pollutants are stripped from the wastewater during aeration or biodegraded.

The tremendous net increase in the secondary treatment metal loads was not anticipated. For each metal, the substantial increase in the effluent load is

TABLE 21. MASS BALANCE ANALYSIS FOR COMBINED 36-DAY STUDY*

Parameter	Primary Treatment**			Secondary Treatment**			Total Treatment**		
	In	Out	±%	In	Out	±%	In	Out	±%
Metals									
Cadmium	1.70	1.45	-15	1.22	2.88	+136	1.63	3.15	+93
Chromium	76.2	96.5	+27	77.8	216	+177	75.5	230	+205
Copper	30.1	33.7	+12	23.4	48.2	+106	29.6	59.2	+100
Cyanide	28.8	31.5	+9	30.1	32.2	+07	28.8	33.6	+17
Lead	16.3	21.9	+34	13.9	31.2	+124	15.8	38.7	+145
Mercury	0.104	0.133	+28	0.082	0.110	+34	0.104	0.110	+6
Nickel	28.3	32.8	+16	28	39.8	+41	28	44.3	+58
Silver	2.99	3.28	+10	2.42	7.26	+200	2.9	8.03	+177
Zinc	129	141	+10	104	168	+62	127	203	+60
Volatiles									
Benzene	6.42	5.99	-7	5.99	1.35	-77	6.38	1.37	-79
1,1,1,-trichloroethane	8.02	7.11	-11	6.97	1.54	-79	8.02	1.63	-89
Chloroform	25.2	25.1	-<1	25.0	12.4	-50	25.2	12.4	-51
1,2-trans-dichloroethylene	0.36	0.44	+22	0.44	<0.1	-100	0.36	<0.1	-100
Ethylbenzene	8.02	9.63	+20	9.5	1.37	-86	7.9	1.39	-82
Methylene chloride	28.9	24.4	-16	24.3	13.3	-45	28.9	13	-55
Tetrachloroethylene	20.8	16.1	-23	16.0	2.41	-85	20.8	2.53	-88
Toluene	146	133	-9	132	21.5	-84	146	22.4	-85
Trichloroethylene	8.15	5.03	-38	4.7	1.18	-75	8.15	1.46	-82
Acids									
Phenol	84.7	89.2	+5	88.9	7.25	-92	84.6	7.66	-91
2,4 Dichlorophenol	1.65	1.61	-2	1.61	0.87	-46	1.65	0.87	-47
Base/Neutrals									
1,2,4-Trichlorobenzene	11.1	11.2	+1	9.7	4.5	-54	11.0	6.1	-45
1,3-Dichlorobenzene	0.73	0.63	-14	0.63	0.44	-30	0.73	0.44	-40
1,4-Dichlorobenzene	1.9	2.0	+7	1.91	0.22	-88	1.88	0.37	-80
Naphthalene	6.9	8.9	+29	8.0	2.0	-75	6.9	2.9	-58
Bis(2-ethylhexyl)phthalate	2.7	7.2	+166	5.0	2.9	-42	2.7	5.0	+85
Di-n-butyl phthalate	1.8	1.1	-39	1.4	1.3	-7	1.8	1.4	-22
Diethyl phthalate	1.5	2.3	+53	2.3	1.5	-35	1.4	1.5	+7
Phenanthrene	0.4	0.65	+62	0.4	0.12	-70	0.4	0.3	-25

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* For priority pollutants detected 50-percent of the time or more plus cadmium and lead

** Pounds/day

the apparent result of the increase in waste activated sludge mass. Though calibration of the waste activated sludge pumps to test the current actual discharge rates was attempted, several valves that isolate the sludge wet wells were inoperable and the pump rates could not be verified. Analytical results and flow records were thoroughly reviewed and no errors were identified.

The total treatment mass calculations are based on the influent load without the load from the recycle lines; the effluent load is equal to the sum of the primary sludge, waste activated sludge, and secondary effluent waste stream loads minus the vaccum filtrate and digester decant loads. Results of the overall treatment mass balance analysis also indicate that volatiles, acids, and base/neutral fractions are reduced significantly while metal masses are observed to increase. Again, erroneous WAS pump rates are suspected as causing the discrepency in metals loads.

CORRELATION OF INFLUENT AND EFFLUENT PRIORITY TOXIC POLLUTANT CONCENTRATIONS

Changes in secondary treatment effluent concentrations as a result of varying influent concentrations is a subject worthy of investigation. Whether a POTW can adequately treat a pollutant on a pound per pound basis regardless of influent pollutant mass, and if the treatment efficiencies are predictable are questions of concern. Linear correlations between the influent and secondary effluent concentrations were attempted in order to answer these questions.

The changes in selected effluent priority pollutant concentrations as a result of varying corresponding influent concentrations is examined below by correlating the influent priority pollutant concentrations to the secondary effluent concentrations. In addition to cadmium and lead, correlations for all priority pollutants that occurred in over 50 percent of the combined 36-day influent samples were determined. Table 22 presents the correlation coefficients, the slope of the best fit line, and the y-intercept determined for each parameter. In calculating the linear correlations, the influent and effluent concentration were assumed to equal zero if the pollutant was not detected in the waste stream; if the pollutant was reported as less than the analytical detection limit, the concentration was also assumed to equal zero.

The correlations were generally good with wide variations observed within the metal, volatile, acid, and base/neutral fractions. Correlation coefficients for the metals ranged from 0.94 for cadmium to -0.008 for mercury; nickel, mercury, copper and zinc had the smallest slopes signifying that each incremental increase in the influent concentration above a certain value (y-intercept) results in a correspondingly larger incremental increase in the effluent concentration. Chromium and silver had the steepest slopes (6.2 and 3.3, respectively), indicating that each incremental increase in the effluent concentration is the result of the influent concentration increasing by factors of 6.2 and 3.6, respectively.

Correlation coefficients for volatile priority toxic pollutants ranged from 0.804 for 1,1,1-trichloroethane to 0.081 for trichloroethylene. Slopes were slightly greater than those for the metals (denoting lower effluent concentrations for each incremental increase in the influent concentrations).

TABLE 22. CORRELATION OF INFLUENT AND EFFLUENT PRIORITY TOXIC POLLUTANT CONCENTRATIONS

Parameter	Correlation Coefficient	Slope of Best Fit Line	Intercept
Metals			
Cadmium	0.943	1.3	1.7
Chromium	0.913	6.2	-84
Silver	0.596	3.3	6.2
Lead	0.524	1.2	37
Nickel	0.396	0.62	51
Cyanide	0.080	1.4	753
Zinc	0.163	0.64	295
Copper	0.041	0.07	85
Mercury	-0.008	-0.04	314
Volatiles			
1,1,1-Trichloroethane	0.804	3.0	4.4
Toluene*	0.730	8.6	78
Benzene	0.597	2.0	10
Tetrachloroethylene	0.535	5.2	19
Chloroform	0.484	1.4	23
Ethylbenzene*	0.340	1.5	16
1,2-Trans-Dichloroethylene	0.322	0.36	2.0
Methylene Chloride	0.22	0.65	56
Trichloroethylene	0.081	0.40	22
Acids			
2,4-Dichlorophenol	0.624	1.1	2.0
Phenol*	0.480	3.1	190
Base/Neutrals			
Diethyl Phthalate	0.779	0.58	1.7
1,4-Dichlorobenzene	0.654	2.2	3.4
Naphthalene	0.634	3.3	13
Phenanthrene	0.472	1.8	1.0
1,2,4-Trichlorobenzene	0.383	1.6	20
Di-N-Butyl Phthalate	0.228	0.7	4.1
1,3-Dichlorobenzene	0.114	0.1	2.1
Bis(2-Ethylhexyl) Phthalate*	0.020	0.1	13

* Outlier values are not included in correlation.

Figure 4 graphically displays the linear correlation determination for benzene. This analysis suggests that, at an influent concentration of 10 µg/ℓ or less, benzene would not be detected in the secondary effluent waste stream; for each subsequent increase in the influent waste stream of two µg/ℓ, an increase of one µg/ℓ would be expected in the effluent. Although the correlation coefficient of 0.597 does not indicate an unquestionable statistical relationship, the analysis does yield an empirical correlation that describes the pollutant tendency or expected pollutant behavior.

The acid compounds 2,4-dichlorophenol and phenol demonstrated moderate correlations (r=0.624 and 0.480, respectively), and slopes greater than one. This indicates that increases in the influent concentration should result in an increase, to a lesser extent, in the effluent concentration. The base/neutral compounds were detected at such low concentrations (often not detected or detected at or near their detection limit) that no implied conclusions can be drawn.

As may be ascertained from the above, the correlations determined should only be interpreted as pollutant trends rather than definite pollutant patterns as a result of secondary treatment.

CORRELATION OF EFFLUENT PRIORITY TOXIC POLLUTANT CONCENTRATIONS TO CONVENTIONAL PARAMETERS

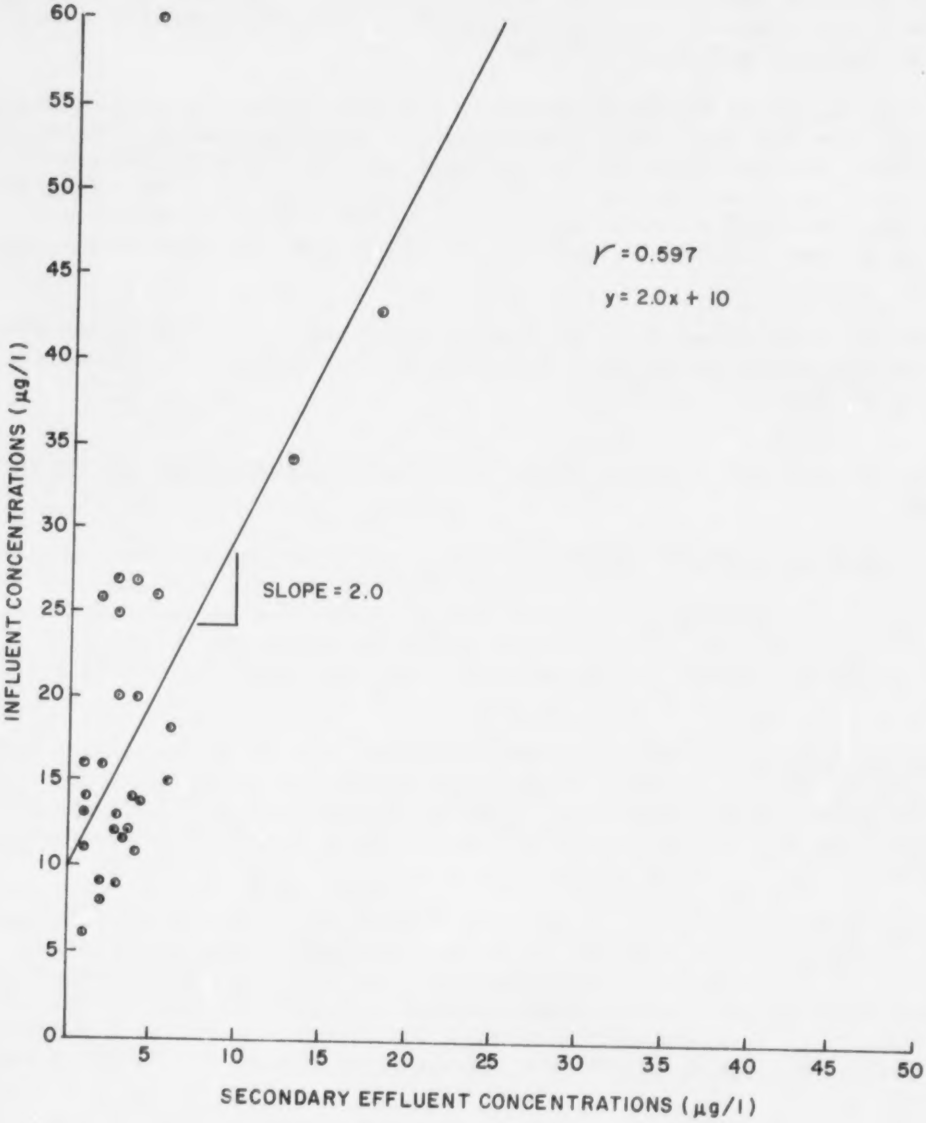
An attempt to identify linear regression correlations between secondary effluent toxic pollutant concentrations and secondary effluent $BOD\underline{5}$ and TSS concentrations was pursued. The basis for this exercise is the theory that removal efficiencies sufficient to reduce $BOD\underline{5}$ or suspended solids will also reduce priority pollutants in the secondary effluent waste stream to similar levels.

Nineteen priority toxic pollutants were detected in the secondary effluent waste stream 50 percent or more of the time during the combined 36-day study. Regression analysis between those pollutants and selected conventional pollutants ($BOD\underline{5}$ and TSS) were poor overall. Table 23 presents the calculated correlations.

Of the 19 priority toxic pollutants, silver and 1,2,4-trichlorobenzene recorded the highest correlations to total suspended solids (correlation coefficients of 0.69 and 0.61, respectively). Silver also demonstrated the best correlation to biochemical oxygen demand (correlation coefficient of 0.50). Results of this analysis indicated that secondary effluent $BOD\underline{5}$ and TSS concentrations apparantly do not have anything to do with the level of toxic pollutants.

EFFECTS OF COMBINED SEWER FLOWS DURING WET WEATHER PERIODS

Approximately seven percent of the Chattanooga collection system consists of combined sewers constructed prior to 1950. Chattanooga's older Central Business District is the center of the combined sewer catchment area. Land use in the Central Business District is relatively high density single-family and multi-family residential areas combined with high rise commercial development. The industrial sector of the city is not served by combined sewers.



OBSERVED INFLUENT VERSUS SECONDARY EFFLUENT CONCENTRATIONS FOR BENZENE

TABLE 23. CORRELATION OF SECONDARY EFFLUENT PRIORITY POLLUTANT CONCENTRATIONS TO SECONDARY EFFLUENT BOD$_5$ AND TSS CONCENTRATIONS

Parameter	Biochemical Oxygen Demand			Total Suspended Solids		
	Correlation Coefficient	Slope	Intercept	Correlation Coefficient	Slope	Intercept
Metals						
Chromium	0.01	0.01	45	0.02	0.01	34
Copper	-0.10	-0.17	48	-0.01	-0.06	35
Silver	0.50	34	1.4	0.69	15	13
Zinc	0.10	0.10	35	0.32	0.15	19
Cyanide	-0.01	-0.01	45	0.01	0.01	34
Nickel	0.12	0.16	36	0.06	0.04	32
Volatiles						
Benzene	0.38	2.1	30	0.14	0.84	31
Methylene Chloride*	0.05	0.03	36	-0.13	-0.09	39
Tetrachloroethylene	0.21	0.46	35	0.17	0.40	32
Chloroform	0.27	0.35	25	-0.02	0.03	35
Toluene	0.32	0.05	35	0.11	0.02	33
Trichloroethylene	0.10	0.19	37	0.12	0.25	33
Ethylbenzene	0.29	1.2	31	-0.03	-0.14	35
1,1,1-Trichloroethane	0.13	0.17	37	0.01	0.01	34
Acids						
Phenol	0.04	0.02	44	0.05	0.01	34
Base/Neutrals						
1,2,4-Trichlorobenzene	-0.05	-0.31	46	0.61	1.3	26
1,3-Dichlorobenzene	-0.05	-0.88	46	-0.06	-0.5	35
2,4-Dichlorophenol	0.12	1.3	41	0.04	0.20	34
Diethyl Phthalate	0.09	0.45	42	0.21	0.48	32

* Outlier values are not included in correlation

Twenty diversion structures presently exist within the combined sewer collection network, in addition to a major overflow on the trunk interceptor and a bypass at the POTW During periods of rain, excess flows are discharged untreated to the receiving streams through the regulators or at the POTW bypass. Rainfall was recorded during 15 of the 36 sampling periods for this study with precipitation values ranging from trace levels on six occassions to 1.94 inches on February 10, 1981. Four of these events were over 0.25 inches (1.94, 0.93, 0.44, and 0.96) resulting in significant increases in flow and in certain heavy metal influent loads. Table 24 presents the influent priority toxic pollutant metal loads for: 1) three of the four storm events (the fourth event was not evaluated due to surcharge conditions at the influent sample location); 2) the average load for the three storm events; and 3) the average dry weather period influent load. The influent samples represent combined sewer flows prior to the waste stream being pumped either to the POTW or bypassed directly to the Tennessee River. Grab samples were collected every hour and were manually composited over 24-hour periods. No attempt was made to flow-proportion the composite samples during the duration of the storm event since no accurate flow values could be obtained. The influent loadings do not include the pounds of pollutants discharged at any of the overflows except at the POTW bypass. Therefore, it should be understood that the loadings listed represent the pollutant trend due to combined sewer flows not the total pounds of toxic pollutants discharged per storm event to the receiving water.

Although variability in the influent loadings exist, amounts of heavy metals resulting from combined sewer flows are obviously significant. Lead showed the most notable increase during wet weather periods, increasing by an average factor of 12.3 during the three storm events. Zinc, mercury, and copper mass loads increased on the average by factors of 3.09, 2.42, and 2.08, respectively, during wet weather. Lead compounds, used as anti-knock additives in gasoline, are released into the atmosphere in automobiles exhaust fumes. These compounds and, to a lesser extent, the lead compounds produced by burning coal may precipitate to the land surface or be washed from the air by rain and enter the sewer system as runoff during storm events. Zinc has been identified in motor oil, transmission fluid, rubber tires, and concrete; copper is found in antifreeze, rubber tires, and brake linings. The mercury concentrations recorded were at such low concentrations that the results should be viewed cautiously. Polynuclear aromatic hydrocarbons (PNAs), pyrolysis products formed during combustion or heating of fossil fuels, were anticipated to be present in combined sewer flow as a result of entering the collection system as runoff. However, PNAs with the exception of phenanthrene and naphthalene, which were detected predominately during dry weather, were not detected during wet weather periods.

Lead, zinc, and copper accounted for 54 percent of the total dry weather metal loading, and over 80 percent of the total wet weather metal loading. Figure 5 graphically displays the daily wastewater flow, copper mass loading, and lead mass loading. The potential effects of wet weather flow are clearly apparent from this analysis.

Correlating the quantitative results of this study to other catchment areas would be difficult since the results are dependent on a number of factors including:

TABLE 24. INFLUENT POTW METAL LOADS DURING STORM EVENTS

Parameter	Average Daily Dry Weather Load	February 10 (1.94 inches)	February 16 (0.93 inches)	February 17 (0.44 inches)	Average Daily Wet Weather Load	Ratio of Wet Weather to Dry Weather Averages
	INFLUENT LOADS (POUNDS/DAY)					
Antimony	1.26	ND	ND	ND	ND	-
Arsenic	1.16	ND	ND	ND	ND	-
Beryllium	0.37	ND	ND	ND	ND	-
Cadmium	1.57	ND	1.87	3.18	1.68	1.07
Chromium	96.54	239.08	52.43	35.65	109.05	1.13
Copper	28.48	93.92	35.57	48.38	59.29	2.08
Lead	4.68	82.82	34.45	55.38	57.55	12.30
Mercury	0.11	0.43	0.37	ND	0.27	2.42
Nickel	27.80	ND	21.72	ND	7.24	0.26
Selenium	ND	ND	4.49	ND	1.50	-
Silver	2.18	5.12	3.74	2.55	3.80	1.74
Zinc	119.32	708.69	213.45	184.61	368.92	3.09

ND - Not Detected

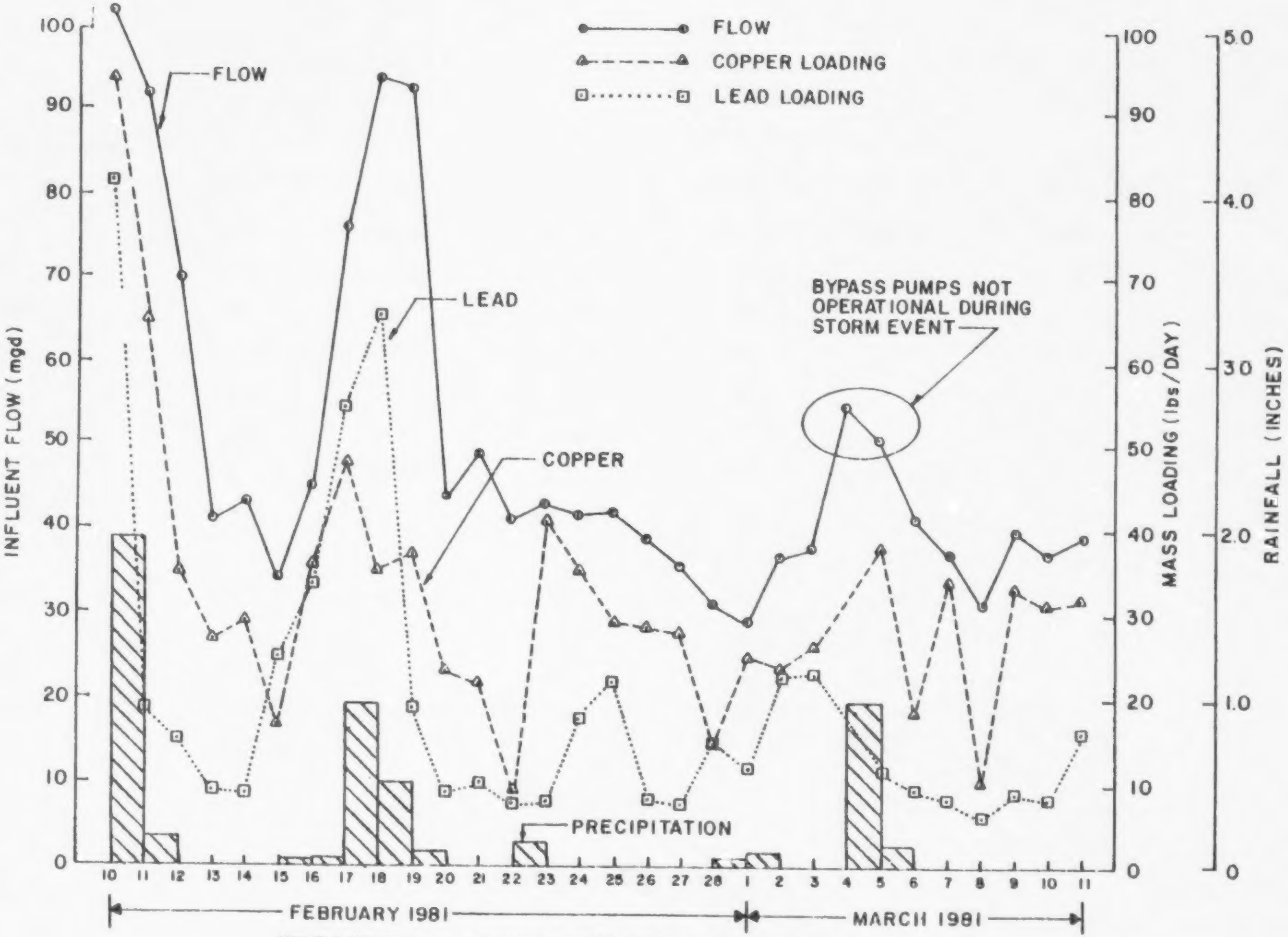


FIGURE 5. POLLUTANT LOADING AND FLOW DURING WET WEATHER PERIODS

- antecedent dry weather conditions;
- volume, intensity, and duration of rainfall;
- catchment area land use;
- industrial activities in the area;
- size, slope, and structural condition of the collection system;
- bypass and/or regulator arrangement;
- street cleaning practices;
- topography of the drainage area;
- erosion parameters; and
- traffic volume.

The increase in the influent metal toxic pollutant load during storm events warrants further evaluation of the quantity, source, and impact of priority pollutant loads in combined sewers and in combined sewer overflows.

QUALITY ASSURANCE/QUALITY CONTROL RESULTS[1]

Prior to detailing the results of the QA/QC program during the 30-day study, it is important to briefly discuss the objectives and the limitations of such a program. During the 30-day study QA/QC samples were collected and analyzed to measure the precision and accuracy of the data and blank water samples were analyzed to identify any sampling or analytical contamination.

As previously mentioned, blank water (ultrapure deionized water) was pumped through all automatic samplers and associated tubing throughout the 30-day period and was analyzed for priority pollutant acid, base/neutral, and pesticide parameter. In addition, ultrapure deionized water was poured into VOA sample bottles, exposed to the environment at the treatment plant and hermetically sealed. These type of samples were analyzed to identify field and analytical contamination such as from methylene chloride (a solvent used extensively both during field sampling and laboratory analysis) or from phthalate ethers (which may be associated with the sample tubing). The analysis of blank water samples is critical, especially when the purge-trap analytical technique (which is susceptible to contamination by residues from concentrated samples or vapors in the laboratory) is employed.

Sporadic occurrences of methylene chloride were identified in several of the VOA blank water samples. Thus in reviewing the methylene chloride results, it should be kept in mind that methylene chloride results that deviate significantly from the mean may in fact be the result of field and/or laboratory contamination. No other pollutants were identified repeatedly or in high concentration in the blank water samples.

The precision of the analytical results can be expressed by the standard deviation of the analytical results of multiple duplicate or spiked samples. The precision of the analytical results refers to the ability to reproduce the same results, regardless of whether the results are true values or the result of systematic analytical errors. In summary, the lower the standard deviation the higher the analytical precision.

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[1] Based on a report prepared by Joan Fisk, formerly of the EGD Office of Analytical Support.

Accuracy, or validity, can be defined for a given sample matrix by measuring the percent recovery of known concentrations of priority pollutants and surrogate compounds that are spiked into both wastewater and blank water samples. Wastewater spike data are referred to as matrix spike results in this study; blank water spike data are referred to as methods spike results.

For the purpose of this study, surrogate compounds are compounds that behave in the same manner as the compounds they represent, but are unlikely to occur in the environment. All deuterated priority pollutants (stable isotopes) were used as surrogates in this study, providing good assurance of representative behavior. Surrogate compounds were added to all samples while priority polllutants were added to only a limited number of specified samples.

Percent recovery and precision data should not be used carelessly. They should only be applied to samples analyzed concurrently with the QA/QC samples. Additionally, the surrogate compound percent recoveries only indicate how good the analytical methods was for the class of compounds that the surrogate represents.

A summary of the QA/QC results for this study is presented below. Appendix B contains the spike percent recoveries; and the values that are considered outliers because their percent recovery exceeded the mean percent recovery of the spiked samples by more than two standard deviation. Outliers are data points that statistically are not in the same sample data population as the other data points. They are not necessarily incorrect, however, and should be viewed in that manner.

WASTEWATER SAMPLES

The overall quality of the purgeable data is good with an average mean recovery of 89.5 ± 16.8 percent. The only compounds found consistently in high concentrations are benzene, chloroform, toluene, ethylbenzene, tetrachloroethylene, and trichloroethylene. The first three compounds have mean recoveries of 90 percent or greater. The last three compounds have mean recoveries of 74.8 ± 22 percent, 68.4 ± 30.5 percent and 77.8 ± 16 percent, respectively, indicating that the concentrations found for those compounds in the samples should be considered minimum values and under certain circumstances may be adjusted for recoveries. The high concentration of vinyl chloride in the influent sample on March 6, 1981, is likely an artifact, since this compound is highly volatile and did not recur throughout the study. The methylene chloride concentrations, in most cases, are probably an artifact of contamination due to widespread laboratory use. Overall the "ND" values should be considered valid since the wastewater spike sample recovery data indicate that the method is suitable for the sample matrix.

The mean percent recovery for the base/neutral priority pollutant matrix spikes of 79 ± 18.5 is very good. Naphthalene is the only recurring base/neutral to occur at a signifiant concentration. The mean percent recovery for napthalene was 85.2 ± 19.1 percent indicating the concentrations detected should be considered valid. The surrogate matrix spikes on the other hand did not show recoveries nearly as high as the priority pollutants - an enigma since all the base/neutral surrogates were labeled analogs of priority pollutants in the spike and should have behaved similarly.

Since the overall percent recoveries are above 50 percent (1,3-dichlorobenzene at 40.8 ± 22.5 percent and hexachloroethane at 46.8 ± 24.1 percent being the exceptions), "ND" values may be considered quite reliable, (i.e., the method is suitable for the matrix). Precision for the base/neutrals was quite acceptable though better for the priority pollutants than for the surrogates.

Expectedly, the acid fraction displayed the poorest percent recoveries for both priority pollutant and surrogate matrix spikes. Phenol in high concentrations was a commonly occurring acid pollutant in these POTW samples; it had a mean percent recovery of 27.1 ± 14.2. The lower recovery for phenol indicates that phenol at low concentrations may have been overlooked.

One explanation of the poor recoveries, particularly of phenol and 2,4-dimethyl phenol, may be the tendency of these compounds to "cross over" into the base/neutral fraction - a phenomenon seen frequently with these compounds, and especially when extracted using continuous liquid-liquid extraction instead of separatory funnel extraction.

The values for phenol reported should be considered minimum values. Precision is poor for phenol as it is, in fact, for all of the acids. This is reflected by the high standard deviation in relation to the percent recovery.

The pesticides QA/QC data are quite good lending validity to "ND" values.

For the metals analyzed by atomic adsorption spectrometry (selenium, thallium, silver, arsenic, antimony and mercury), only silver was found consistently above the detection limit. Values for selenium, thallium, arsenic, antimony, and mercury were not reported above the instrument limit of detection.

The remaining metals were analyzed by plasma emission spectrometry. Of these metals, boron data consistently portray poor precision primarily because the detection level is high and the determined concentrations were close to the detection limit. Recovery for boron is also poor due to the volatility of boron. Consequently, the boron data should be used only as a present or absent type analyte and should be considered to be minimal values.

Percent recoveries for all of the other metals are good - generally above 95 percent, except for tin. Since tin was never found above the sample detection limit, which is approximately 30 µg/ℓ, using the worst sample recovery data of about 52 percent, we can assume that at most, less than 60 µg/ℓ of tin are present.

Overall, the QA data for the metals analyses for the 30-day study indicate that the numbers may be considered to present an accurate picture of those analytes found (other than the two cited elements).

SLUDGE SAMPLES

The percent recoveries for the volatile pollutants in the sludge sample are very good except for toluene (59.3 ± 40.4) and tetrachloroethane (156.3 ± 29.3 - only 4 data points). The overall precision for matrix spiking is also good with an average standard deviation of 15.5 for priority pollutants and 8.3 for surrogates. The priority pollutant and surrogate spikes both exhibit good recovery results. The method spikes are not as satisfactory with a mean percent recovery of 106.8 ± 43.7. Compounds occurring in significant concentrations in the samples are toluene, 1,1,2-trichloroethane, 1,1,2-trichloroethylene, tetrachlorlethylene, and ethyl benzene. The toluene results reported should be considered a minimum value because of the low percent recoveries. The other four compound concentrations should be considered reliable. "ND" values should be considered as depicting compound presence below 10 µg/ℓ unless otherwise stated.

Considering the complex matrix presented by sludge samples, the mean average percent recovery for the base/neutral priority pollutants of 45 ± 23.4 is not bad. The majority of the compounds that were detected in the samples have recoveries of greater than 50 percent with the exception of bis(2-ethylhexyl) phthalate (36.9 ± 22.8), butyl benzyl phthalate (22.4 ± 5.2), benzo(a)-anthracene (15.5.± 5.0), Benzo(k)fluoranthene (35.0), and acenaphthene (44.7 ± 19.2), which appeared only once as a sample analyte. Other compounds commonly occurring in high concentrations are 1,2,4-trichlorobenzene, benzo(a)pyrene, chrysene, anthracene, and fluorene. The base/neutral concentrations can be considered as minimum values. "ND" results are not as valid for the sludge sample as they are for the wastewater samples because of both lower spiked sample recoveries and corresponding higher limits of detection for the base/neutral compounds in the sludge sample.

The percent recoveries for the acids are all greater than 40 percent except for 2,4-dimethyl phenol. These recoveries approximate the recoveries for the acid fraction in the wastewater samples. Phenol was the only acid to be detected at high frequency and high concentrations exhibiting a mean percent recovery of 42 ± 17.5. The reported concentrations can be considered to be minimums. Because of the lower recoveries and higher limits of detection, "ND" data again may be considered less reliable than for the "ND" data for wastewater samples.

The sludge metals appeared very erratic as far as percent recoveries are concerned, varying from 6.0 ± 12.7 percent for selenium matrix spikes and 4.0 ± 8.9 for selenium methods spikes to 90 percent or better for zinc, beryllium, chromium, copper, lead, nickel, and silver. All the priority pollutant elements except selenium and thallium were detected in these samples and for most elements, except selenium, antimony, and thallium (all determined to be below the detection limit in most samples), data can be considered good because of high percent recoveries. Arsenic has a very high standard deviation showing wide variability of percent recovery. Overall, the data for the elements found in concentrations greater than 50 µg/ℓ are supported by good percent recoveries.

APPENDIX A. ASBESTOS RESULTS*

Location	Total Fibers - All Sizes (million fibers per liter)	Chrysotile Fibers - All Sizes (million fibers per liter)	Total Fibers - Restricted Sizes (million fibers per liter)	Chrysotile Fibers - Restricted Sizes (million fibers per liter)	Data Interpretation
Tap Water	0	0	0	0	Shows no indication of chrysotile fibers in the sample.
Primary Effluent	375	75	0	0	Cannot be interpreted because of the limited number of chrysotile fibers counted.
Influent to POTW	1100	0	0	0	Shows no indication of chrysotile asbestos in the wastestream.
Treated Effluent	0	0	0	0	Shows no indication of chrysotile asbestos in the wastestream.

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* Based on grab samples taken on 25 February 1981.

TABLE B-1. PERCENT RECOVERIES - WASTEWATER PURGEABLE POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ, (No. of data points)]	Method Spike
Tetrachloroethylene	68.4 ± 30.5 (8)	NA
Toluene	89.5 ± 13.5 (6)	NA
1,1,2-trichloroethane	93.6 ± 14.6 (8)	NA
Tetrachloroethane	93.3 ± 30.6 (8)	NA
Benzene	92.5 ± 17.7 (8)	NA
Dibromochloromethane	83.6 ± 10.8 (8)	NA
cis-1,3-Dichloropropylene	90.0 ± 17.3 (4)	NA
Trichloroethylene	77.8 ± 14.1 (8)	NA
1,2-Dichloropropane	90.4 ± 13.8 (8)	NA
Trans-1,3-Dichloropropylene	89.0 ± 27.8 (8)	NA
Bromodichloromethane	90.4 ± 15.4 (8)	NA
1,1,1-Trichloroethane	97.4 ± 23.8 (8)	NA
Carbon tetrachloride	78.4 ± 22.9 (8)	NA
Chloroform	106.0 ± 28.8 (8)	NA
1,2-Dichloroethane	95.0 ± 22.5 (8)	NA
1,1-Dichloroethane	97.8 ± 17.8 (8)	NA
Trans-1,2-Dichloroethylene	87.1 ± 17.8 (8)	NA
Trichlorofluoromethane	94.8 ± 28.5 (8)	NA
Ethyl benzene	74.8 ± 22.0 (8)	NA
Chlorobenzene	85.6 ± 17.3 (8)	NA
Mean ± σ	89.5 ± 16.8 (124)	
Surrogates		
$d_4$1,2-Dichloroethane	81.0 ± 12.8 (105)	
d_8Toluene	115.4 ± 9.6 (106)	
d_{10}Ethyl Benzene	102.0 ± 16.3 (113)	
Mean ± σ	102.1 ± 16.3 (113)	

σ = standard deviation

TABLE B-2. PERCENT RECOVERIES - WASTEWATER BASE/NEUTRAL POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
1,2-Dichlorobenzene	53.0 ± 17.9 (5)	35.2 ± 30.2 (6)
1,3-Dichlorobenzene	40.8 ± 22.5 (5)	32.0 ± 28.3 (6)
Hexachloroethane	46.8 ± 24.1 (5)	46.0 ± 38.6 (3)
Bis(2-chloroisopropyl)ether	62.8 ± 26.1 (5)	50.3 ± 34.0 (9)
n-Nitroso-di-n-propylamine	92.3 ± 47.4 (4)	78.3 ± 31.1 (4)
Nitrobenzene	85.6 ± 37.0 (5)	68.5 ± 42.8 (6)
Isophorone	76.0 ± 31.1 (5)	73.3 ± 49.2 (6)
Hexachlorobutadiene	58.4 ± 22.3 (5)	45.4 ± 34.5 (5)
1,2,4-Trichlorobenzene	62.2 ± 26.3 (5)	49.3 ± 28.4 (6)
Bis(2-chloroethyl)ether	67.2 ± 30.2 (5)	44.7 ± 36.5 (6)
Naphthalene	85.2 ± 19.1 (5)	69.3 ± 34.9 (6)
Bis(2-chloroethoxy)methane	91.2 ± 34.8 (5)	76.2 ± 42.6 (6)
2-Chloronaphthalene	85.0 ± 19.4 (5)	87.7 ± 37.5 (6)
Anenaphylene	84,8 ± 20.2 (5)	85.5 ± 48.2 (6)
Acenaphthen	76.2 ± 17.0 (5)	92.8 ± 42.6 (6)
Dimethyl phthalate	99.3 ± 72.0 (5)	68.5 ± 27.1 (6)
2,6-Dinitrotoluene	81.8 ± 16.3 (4)	75.6 ± 35.0 (5)
Fluorene	87.0 ± 20.4 (5)	97.2 ± 41.2 (6)
2,4-dinitrotoluene	77.5 ± 8.5 (4)	54.0 ± 43.5 (5)
Diethyl phthalate	69.4 ± 31.9 (5)	72.2 ± 30.9 (6)
1,2-Diphenyl hydrazine	88.8 ± 24.0 (5)	102.7 ± 42.4 (6)
n-Nitroso-di-phenylamine	104.0 ± 21.4 (8)	114.3 ± 36.5 (6)
Hexachlorobenzene	80.2 ± 13.4 (5)	90.3 ± 44.0 (6)
4-Bromophenyl ether	86.0 ± 14.1 (5)	97.5 ± 44.5 (6)
Phenanthrene/Anthracene	73.6 ± 25.6 (5)	107.7 ± 40.6 (6)
Di-n-butyl phthalate	97.0 ± 33.8 (5)	88.3 ± ±7.6 (6)
Fluroanthene	93.4 ± 22.2 (5)	114.5 ± 51.7 (6)
Pyrene	88.6 ± 14.0 (5)	111.5 ± 41.9 (6)
Butyl benzyl phthalate	92.2 ± 61.6 (5)	81.0 ± 33.3 (6)
Benzo(a)anthracene/chrysene	76.6 ± 13.1 (5)	117.3 ± 29.9 (6)
Di-n-octyl phthalate	80.6 ± 26.4 (5)	118.5 ± 55.8 (6)
Dibenzo(a,h)anthracene	79.5 ± 16.3 (2)	107.5 ± 54.5 (6)
Benzo(g,h,i)perylene	72.0 ± 17.0 (2)	84.0 ± 18.3 (3)
Bis(2-ethyl-hexyl) phthalate	85.8 ± 16.2 (5)	75.0 ± 26.0 (3)
Indeno(1,2,3-cd)pyrene	84.0 (2)	98.7 ± 11.6 (3)
Mean ± σ	79.0 ± 18.5 (139)	76.9 ± 26.7 (162)

Surrogates

d_5Nitrobenzene	52.0 ± 19.6 (75)
d_8Naphthalene	61.1 ± 25.9 (102)
d_{12}Chrysene	60.9 ± 35.0 (90)
d_{10}Fluorene	59.2 ± 24.2 (92)

σ = standard deviation

TABLE B-3. PERCENT RECOVERIES - WASTEWATER ACID POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
2-Nitrophenol	49.8 ± 22.7 (8)	56.4 ± 22.7 (8)
2-Chlorophenol	42.0 ± 20.3 (8)	40.4 ± 21.4 (8)
Phenol	27.1 ± 14.2 (8)	33.8 ± 24.8 (8)
2,4-Dimethylphenol	41.5 ± 26.6 (8)	46.9 ± 23.3 (8)
2,4,6-Trichlorophenol	54.6 ± 26.7 (8)	62.8 ± 24.5 (8)
2,4-Dichlorophenol	54.8 ± 22.9 (8)	58.1 ± 24.4 (8)
p-Chloro-m-cresol	56.3 ± 17.1 (8)	66.0 ± 23.8 (8)
2,4-Dinitrophenol	104.5 ± 94.6 (8)	87.0 ± 43.3 (4)
4,6-Dinitro-o-cresol	78.3 ± 70.1 (8)	89.0 ± 16.0 (4)
Pentachlorophenol	73.1 ± 57.6 (8)	82.7 ± 30.7 (7)
4-Nitrophenol	34.0 ± 14.0 (4)	62.0 ± 26.6 (4)
Mean ± σ	45.0 ± 23.9 (69)	59.3 ± 29.3 (75)
Surrogates		
d_5Phenol	33.7 ± 16.4 (112)	
$d_4$2-Nitrophenol	45.9 ± 19.6 (105)	
Mean ± σ	39.6 ± 19.0 (217)	

TABLE B-4. PERCENT RECOVERIES - WASTEWATER PESTICIDE POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
Gamma BHC	72.9 ± 17.9 (8)	67.5 ± 18.2 (8)
Aldrin	80.3 ± 29.0 (8)	89.3 ± 15.6 (8)
Heptachlor	75.8 ± 25.5 (8)	82.3 ± 17.6 (8)
Heptachlor epoxide	80.0 ± 22.7 (8)	90.9 ± 22.2 (8)
Endrin	88.9 ± 43.1 (8)	87.1 ± 26.6 (8)
Dieldrin	81.5 ± 28.5 (8)	89.6 ± 17.9 (8)
4,4'-DDD	72.0 ± 21.2 (8)	80.1 ± 24.9 (8)
4,4'-DDT	62.8 ± 28.0 (8)	82.9 ± 33.0 (8)

Mean ± σ = standard deviation

TABLE B-5. WASTEWATER OUTLIERS BASED ON SURROGATE RECOVERIES EXCEEDING TWO STANDARD DEVIATIONS

Sample Location	Date	Percent of Data as Outliers
Acid Fraction		
$D_4$2Nitrophenol		
Influent	10 February 1981	10.2
Treated Effluent	10 February 1981	
Digester Decant	12 February 1981	
Treated Effluent	22 February 1981	
Primary Effluent	4 March 1981	
Treated Effluent	4 March 1981	
Influent	5 March 1981	
Primary Effluent	5 March 1981	
Treated Effluent	5 March 1981	
Influent	8 March 1981	
Influent	9 March 1981	
Primary Effluent	9 March 1981	
Treated Effluent	10 March 1981	
D_5Phenol		
Primary Effluent	1 March 1981	4.3
Influent	5 March 1981	
Primary Effluent	5 March 1981	
Treated Effluent	5 March 1981	
Primary Effluent	11 March 1981	
Volatile Fraction		
$D_4$1,2,-Dichloroethane		
Influent	16 February 1981	6.3
Primary Effluent	16 February 1981	
Treated Effluent	16 February 1981	
Influent	24 February 1981	
Primary Effluent	2 March 1981	
Treated Effluent	2 March 1981	
D_8Toluene		
Influent	23 February 1981	7.0
Influent	24 February 1981	
Primary Effluent	8 March 1981	
VF Filtrate	8 March 1981	
Tap Water	8 March 1981	
Treated Effluent	9 March 1981	
Influent	10 March 1981	
Treated Effluent	10 March 1981	

Table B-5. (continued)

Sample Location	Date	Percent of Data as Outliers
D_{10}Ethyl Benzene		
Influent	24 February 1981	2.6
Treated Effluent	9 March 1981	
Treated Effluent	10 March 1981	
Base/Neutral Fraction		
D_8Naphthalene		
Treated Effluent	11 February 1981	8.9
Treated Effluent	12 February 1981	
VF Filtrate	12 February 1981	
Primary Effluent	14 February 1981	
Treated Effluent	16 February 1981	
Influent	20 February 1981	
Primary Effluent	20 February 1981	
Treated Effluent	28 February 1981	
Treated Effluent	8 March 1981	
D_5-Nitrobenzene		
Influent	10 February 1981	23.5
Primary Effluent	10 February 1981	
Primary Effluent	11 February 1981	
Treated Effluent	11 February 1981	
Influent	12 February 1981	
Treated Effluent	12 February 1981	
VF Filtrate	12 February 1981	
Tap Water	12 February 1981	
Treated Effluent	14 February 1981	
Influent	15 February 1981	
Primary Effluent	15 February 1981	
Treated Effluent	16 February 1981	
Primary Effluent	19 February 1981	
Influent	20 February 1981	
Primary Effluent	21 February 1981	
Tap Water	24 February 1981	
Influent	25 February 1981	
Primary Effluent	25 February 1981	
Treated Effluent	25 February 1981	
Influent	28 February 1981	
Treated Effluent	28 February 1981	
Primary Effluent	9 March 1981	

Table B-5. (continued)

Sample Location	Date	Percent of Data as Outliers
D_{10}Fluorene		
Influent	10 February 1981	19.3
Primary Effluent	10 February 1981	
Treated Effluent	10 February 1981	
Treated Effluent	11 February 1981	8.9
VF Filtrate	12 February 1981	
Digester Decant	12 February 1981	
Treated Effluent	16 February 1981	
Primary Effluent	19 February 1981	
Treated Effluent	19 February 1981	
Influent	20 February 1981	
Primary Effluent	20 February 1981	
Treated Effluent	20 February 1981	
Treateds Effluent	24 February 1981	
Tap Water	24 February 1981	
Influent	26 February 1981	
Primary Effluent	26 February 1981	
Treated Effluent	26 February 1981	
Influent	27 February 1981	
Treated Effluent	28 February 1981	
Influent	28 February 1981	
Treated Effluent	8 March 1981	
D_{12}Chrysene		
Influent	10 February 1981	20.4
Primary Effluent	11 February 1981	
Treated Effluent	11 February 1981	
Influent	12 February 1981	
Tap Water	12 February 1981	
Primary Effluent	14 February 1981	
Treated Effluent	14 February 1981	
Treated Effluent	16 February 1981	
Treated Effluent	18 February 1981	
Primary Effluent	19 February 1981	
Treated Effluent	19 February 1981	
Influent	20 February 1981	
Primary Effluent	20 February 1981	
Treated Effluent	20 February 1981	
Tap Water	24 February 1981	
Influent	26 February 1981	
Primary Effluent	26 February 1981	
Treated Effluent	26 February 1981	
Influent	27 February 1981	
Primary Effluent	27 February 1981	
Influent	28 Februray 1981	

TABLE B-6. PERCENT RECOVERIES - SLUDGE PURGEABLE POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
Benzene	107.1 ± 25.8 (10)	87.0 ± 10.3 (10)
Carbon tetrachloride	103.5 ± 39.7 (10)	131.0 ± 24.1 (10)
Chlorobenzene	112.4 ± 8.5 (10)	88.0 ± 20.7 (10)
Chloroform	101.7 ± 18.3 (10)	114.0 ± 21.7 (10)
1,2-Dichloroethane	116.3 ± 25.8 (10)	115.0 ± 20.3 (10)
1,1-Dichloroethane	91.3 ± 10.8 (10)	112.0 ± 17.2 (10)
Ethyl benzene	131.5 ± 93.1 (10)	102.0 ± 12.3 (10)
1,1,1-Trichloroethane	108.6 ± 60.3 (10)	125.0 ± 25.8 (10)
1,1,2-Trichloroethane	120.3 ± 26.9 (10)	100.0 ± 23.8 (10)
Chloroethane	125.9 ± 129.2 (10)	122.4 ± 95.5 (10)
Tetrachloroethane	156.3 ± 29.3 (4)	95.0 ± 5.8 (4)
Trichloroethylene	95.6 ± 21.9 (8)	108.8 ± 16.6 (8)
Toluene	59.3 ± 40.4 (8)	105.0 ± 12.0 (8)
Tetrachloroethylene	86.0 ± 23.4 (6)	111.7 ± 23.1 (6)
Dichloromethane	61.0 ± 65.4 (3)	71.7 ± 37.5 (3)
Mean ± σ	100.49 ± 15.5 (99)	106.8 ± 43.7 (125)
Surrogates		
d$_6$-Benzene	106.7 ± 11.4 (83)	
d$_8$-Toluene	100.3 ± 15.9 (84)	
d$_4$-1,2-Dichloroethane	107.9 ± 31.6 (84)	
Mean ± σ	105.4 ± 8.3 (217)	

Mean ± σ = standard deviation

TABLE B-7. PERCENT RECOVERIES - SLUDGE PURGEABLE POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
Heptachlor	39.5 ± 30.5 (10)	66.4 ± 54.7 (10)
Acenaphthylene	51.2 ± 15.1 (10)	48.8 ± 14.3 (10)
Benzo(a)pyrene	37.5 ± 18.9 (10)	57.6 ± 27.1 (10)
Bis(2x-chloroethyl)ether	43.6 ± 22.6 (10)	43.6 ± 7.9 (10)
Bis(2-chloroisopropyl)ether	43.2 ± 21.8 (10)	33.8 ± 20.4 (10)
Bis(2-ethylhexyl) phthalate	36.9 ± 22.8 (4)	13.2 ± 17.2 (10)
Butyl benzyl phthalate	22.4 ± 25.2 (10)	10.6 ± 19.2 (10)
2,6-Dinitrotoluene	84.2 ± 24.4 (10)	59.4 ± 37.7 (10)
Fluoranthene	52.5 ± 15.6 (10)	66.4 ± 16.8 (10)
Hexachloroethane	25.6 ± 11.5 (10)	33.6 ± 15.1 (10)
1,4-Dichlorobenzene	64.3 ± 22.7 (10)	78.4 ± 32.6 (10)
Naphthalene	53.9 ± 23.8 (9)	50.3 ± 5.9 (9)
Phenanthrene	54.4 ± 9.8 (7)	62.1 ± 21.6 (7)
1,2,4-Trichlorobenzene	65.8 ± 34.4 (9)	68.8 ± 26.8 (10)
Acenaphthene	44.7 ± 19.2 (7)	57.6 ± 13.3 (7)
Pyrene	59.1 ± 10.5 (7)	67.9 ± 9.1 (7)
Anthracene	55.3 ± 2.5 (8)	90.0 ± 43.3 (3)
Fluorene	55.8 ± 9.8 (5)	53.4 ± 17.7 (5)
Benzo(a)anthracene	15.5 ± 5.0 (2)	61.0 ± 26.9 (2)
Chrysene	33.5 ± 19.1 (2)	54.5 ± 7.8 (2)
4,4'DDE	45.4 ± 36.5 (10)	84.0 ± 67.3 (10)
Benzo(K)fluoranthene	35.0 ± NC (1)	90.0 ± NC (1)
1,2-Dichlorobenzene	108.0 ± NC (1)	125.0 ± NC (1)
Alpha BHC	54.4 ± 34.2 (10)	64.8 ± 49.2 (10)
Mean ± σ	45.0 ± 23.4 (189)	50.3 ± 36.0 (180)
Surrogates		
d_{10}-Fluorene	63.5 ± 35.3 (180)	
d_5-Nitrobenzene	106.0 ± 27.7 (80)	
d_8-Naphthalene	109.8 ± 22.9 (78)	
d_{12}-Chrysene	58.9 ± 22.0 (80)	
Mean ± σ	55.0 ± 17.5 (290)	

σ = standard deviation
NC = not calculated

TABLE B-8. PERCENT RECOVERIES - SLUDGE ACID POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
2,4-Dichlorophenol	44.6 ± 17.1 (10)	50.4 ± 23.1 (10)
2,4-Dimethyl phenol	15.7 ± 9.4 (10)	34.2 ± 15.4 (10)
Pentachlorophenol	48.2 ± 10.8 (10)	50.0 ± 12.2 (10)
Phenol	42.0 ± 17.5 (10)	55.2 ± 17.3 (10)
Mean ± σ	36.6 ± 17.9 (39)	45.3 ± 8.8 (30)
Surrogates		
d_4-2-Nitrophenol	44.0 ± 23.3 (79)	
d_5-Nitrophenol	49.0 ± 19.3 (80)	
Mean ± σ	41.8 ± 16.2 (136)	

σ = standard deviation

TABLE B-9. PERCENT RECOVERIES - SLUDGE METAL POLLUTANTS

Priority Pollutant	Matrix Spikes [mean±σ,(No.of data pts)]	Method Spikes [mean±σ,(No.of data pts)]
Zinc	89.4 ± 17.5 (10)	100.0 ± 35.0 (5)
Antimony	31.0 ± 30.1 (10)	27.8 ± 17.2 (5)
Arsenic	73.3 ± 90.5 (10)	120.4 ± 168.4 (5)
Beryllium	110.8 ± 28.5 (10)	50.6 ± 39.7 (5)
Chromium	108.2 ± 21.7 (10)	87.6 ± 54.3 (5)
Copper	107.6 ± 26.9 (10)	94.2 ± 8.3 (5)
Lead	105.0 ± 22.0 (10)	71.2 ± 44.1 (5)
Mercury	71.2 ± 18.7 (10)	94.6 ± 22.2 (5)
Nickel	95.9 ± 36.6 (10)	106.0 ± 8.2 (5)
Selenium	6.0 ± 12.7 (10)	4.0 ± 8.9 (5)
Silver	95.1 ± 28.0 (10)	74.8 ± 42.2 (5)
Thallium	47.8 ± 25.7 (10)	43.4 ± 26.3 (5)
Cadmium	82.2 ± 20.7 (10)	93.6 ± 10.6 (5)
Mean ± σ	74.0 ± 47.1 (129)	67.8 ± 39.1 (63)

TABLE B-10. SLUDGE SURROGATE RECOVERIES EXCEEDING TWO STANDARD DEVIATIONS

Sample Location	Date	Percent of Data as Outliers
Acid Fraction		
D_5 Phenol		
Primary Sludge	17 February 1981	9.1
Primary Sludge	18 February 1981	
Secondary Sludge (blank)	19 February 1981	
Secondary Sludge	21 February 1981	
Primary Sludge (spike)	28 February 1981	
Primary Sludge	3 March 1981	
Primary Sludge	5 March 1981	
D_2Nitrophenol		
Primary Sludge	12 February 1981	12.2
Primary Sludge	17 February 1981	
Secondary Sludge	17 February 1981	
Primary Sludge	18 February 1981	
Secondary Sludge (blank)	19 February 1981	
Secondary Sludge	21 February 1981	
Primary Sludge	3 March 1981	
Secondary Sludge (blank)	3 March 1981	
Primary Sludge	5 March 1981	
Secondary Sludge (blank)	6 March 1981	
Base/Neutral Fraction		
D_8Naphthalene		
Primary Sludge (spike)	16 February 1981	10.3
Secondary Sludge	16 February 1981	
Primary Sludge	23 February 1981	
Secondary Sludge (blank)	25 February 1981	
Secondary Sludge (blank)	3 March 1981	
Primary Sludge (spike)	4 March 1981	
Primary Sludge	6 March 1981	
Primary Sludge	11 March 1981	
Secondary Sludge	11 March 1981	
D_5 Nitrobenzene		
Secondary Sludge (blank)	13 February 1981	10.1
Primary Sludge	16 February 1981	
Secondary Sludge (blank	19 February 1981	
Primary Sludge	23 February 1981	
Secondary Sludge	25 February 1981	
Secondary Sludge (blank)	3 March 1981	
Secondary Sludge (blank)	6 March 1981	
Secondary Sludge	8 March 1981	
Secondary Sludge (blank)	9 March 1981	

TABLE B-10. (continued)

Sample Location	Date	Percent of Data as Outliers
D12 NitroBenzene		
Secondary Sludge (blank)	10 February 1981	7.0
Secondary Sludge (blank)	13 February 1981	
Secondary Sludge (blank)	22 February 1981	
Secondary Sludge (blank)	3 March 1981	
Secondary Sludge (blank)	9 March 1981	
Primary Sludge	11 March 1981	
DS10 Fluorene		
Primary Sludge	23 February 1981	2.4
Secondary Sludge	11 March 1981	
Volatile Fraction		
D_8Toluene		
Primary Sludge	11 February 1981	5.6
Primary Sludge	19 February 1981	
Primary Sludge	20 February 1981	
Primary Sludge	21 February 1981	
Secondary Sludge (spike)	6 March 1981	
D_6Benzene		
Primary Sludge	16 February 1981	10.8
Primary Sludge (spike)	16 February 1981	
Primary Sludge	17 February 1981	
Secondary Sludge	24 February 1981	
Primary Sludge	26 February 1981	
Secondary Sludge	26 February 1981	
Secondary Sludge	28 February 1981	
Secondary Sludge (blank)	3 March 1981	
Secondary Sludge	6 March 1981	
Secondary Sludge (blank)	6 March 1981	
$D_4$1,2-Dichloroethane		
Primary Sludge	11 February 1981	15.2
Secondary Sludge	11 February 1981	
Secondary Sludge (blank)	11 February 1981	
Primary Sludge	12 February 1981	
Primary Sludge	14 February 1981	
Primary Sludge	15 February 1981	
Primary Sludge	16 February 1981	
Primary Sludge (spike)	16 February 1981	
Secondary Sludge	16 February 1981	
Secondary Sludge (blank)	16 February 1981	
Primary Sludge	17 February 1981	
Secondary Sludge (blank)	19 February 1981	
Primary Sludge (spike)	22 February 1981	
Secondary Sludge	23 February 1981	
Secondary Sludge (spike)	6 March 1981	

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/16 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	560	280	50	200	38000	46000
	TOTAL SUSP. SOLIDS	MG/L	340	29	91	239	55714	4030
	COD	MG/L	1100	180	84	950	95000	5600
	OIL & GREASE	MG/L	82	2	98	71	10450	116
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	808	81	90	686	823	290
	TOTAL SOLIDS	MG/L	1828	1060	42	1534	61252	4718
	TOTAL DISS. SOLIDS	MG/L	1252	932	26	1065	8036	1493
	SETTLEABLE SOLIDS	ML/L	5	L 1	80	L 1	1000	970
	VOLATILE DISS. SOLIDS	MG/L	232	148	36	242	5893	1045
	TOTAL VOL. SUS. SOLIDS	MG/L	212	12	94	145	35536	2036
	AMMONIA NITROGEN	MG/L	18	15	17	18	35	18
	TOC	MG/L	250	42	83	220	1700	360
VOLATILES	BENZENE	UG/L	5	NOT RUN	-	4	44	N-D
	CHLOROBENZENE	UG/L	L 1	NOT RUN	-	N-D	28	N-D
	1,1,1-TRICHLOROETHANE	UG/L	23	NOT RUN	-	7	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	NOT RUN	-	L 1	17	N-D
	CHLOROFORM	UG/L	128	NOT RUN	-	125	20	8
	1,2-TRANS-DICHLOROETHYLENE	UG/L	L 1	NOT RUN	-	1	103	N-D
	ETHYLBENZENE	UG/L	10	NOT RUN	-	2	707	5
	METHYLENE CHLORIDE	UG/L	9400	NOT RUN	-	69	23	N-D
	DICHLOROBROMOMETHANE	UG/L	N-D	NOT RUN	-	N-D	9	N-D
	DICHLORODIFLUOROMETHANE	UG/L	N-D	NOT RUN	-	N-D	40	N-D
	TETRACHLOROETHYLENE	UG/L	93	NOT RUN	-	43	87	50
	TOLUENE	UG/L	210	NOT RUN	-	44	4185	28
	TRICHLOROETHYLENE	UG/L	2	NOT RUN	-	4	4220	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	11	N-D	99+	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	3	3	-	3	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	8	-	N-D	N-D	N-D
	PENTACHLOROPHENOL	UG/L	5	N-D	99+	N-D	N-D	N-D
	PHENOL	UG/L	220	10	95	130	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	150	3	98	59	N-D	N-D
	1,2-DICHLOROBENZENE	UG/L	5	N-D	99+	4	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	240	N-D
	1,4-DICHLOROBENZENE	UG/L	2	N-D	99+	2	220	N-D
	NAPHTHALENE	UG/L	10	1	90	8	570	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	8	-	13	709	N-D
	BUTYL BENZYL PHTHALATE	UG/L	L 1	3	-	2	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	2	2	-	3	N-D	N-D
	DIETHYL PHTHALATE	UG/L	3	5	-	17	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	2	-	N-D	N-D	N-D
	ANTHRACENE	UG/L	3	N-D	99+	N-D	N-D	N-D
	PHENANTHRENE	UG/L	3	N-D	99+	3	N-D	N-D
PESTICIDES	GAMMA-BHC	NG/L	3900	L 1000	74	N-D	N-D	N-D
METALS	ANTIMONY	UG/L	9	6	33	6	15	L 1

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/16
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/16 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	UG/L	5	3	40	5	540	28
	BERYLLIUM	UG/L	1	L 1	-	1	L 26	L 10
	CADMIUM	UG/L	9	6	33	8	300	33
	CHROMIUM	UG/L	119	10	92	117	13000	1400
	COPPER	UG/L	101	4	96	82	17000	970
	CYANIDE	UG/L	2750	130	95	1700	42900	1600
	LEAD	UG/L	126	47	63	73	13000	290
	MERCURY	NG/L	L 1000	L 1000	-	L 1000	91000	6000
	NICKEL	UG/L	106	71	33	127	4400	490
	SELENIUM	UG/L	4	3	25	3	20	4
	SILVER	UG/L	14	3	79	14	1400	69
	THALLIUM	UG/L	3	1	67	1	L 170	L 31
	ZINC	UG/L	389	121	69	513	25000	1900
NON-CONV. METALS	ALUMINUM	UG/L	3390	672	80	6900	NOT RUN	NOT RUN
	BARIUM	UG/L	168	30	82	145	NOT RUN	NOT RUN
	BORON	UG/L	218	142	35	304	NOT RUN	NOT RUN
	CALCIUM	MG/L	39	33	15	39	NOT RUN	NOT RUN
	IRON	UG/L	2220	424	81	2890	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	7	22	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	201	148	26	240	NOT RUN	NOT RUN
	SODIUM	MG/L	471	321	32	380	NOT RUN	NOT RUN
	TIN	UG/L	70	32	54	69	NOT RUN	NOT RUN
	TITANIUM	UG/L	19	L 2	89	37	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 3	L 3	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/16
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/17 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	280	43	85	280	25000	3000
	TOTAL SUSP. SOLIDS	MG/L	195	31	84	254	53191	3284
	COD	MG/L	880	220	75	830	81000	5200
	OIL & GREASE	MG/L	75	3	96	40	11950	115
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	350	173	51	857	1245	402
	TOTAL SOLIDS	MG/L	1504	1216	19	1532	72186	4846
	TOTAL DISS. SOLIDS	MG/L	1170	1143	2	1254	4681	2143
	SETTLEABLE SOLIDS	ML/L	6	L 1	83	L 1	1000	925
	VOLATILE DISS. SOLIDS	MG/L	268	298	-	371	2128	459
	TOTAL VOL. SUS. SOLIDS	MG/L	118	19	84	125	36170	3143
	AMMONIA NITROGEN	MG/L	17	12	29	17	23	11
	TOC	MG/L	190	60	68	250	2400	240
VOLATILES	BENZENE	UG/L	16	1	94	4	38	2
	CHLOROBENZENE	UG/L	L 1	L 1	-	L 1	20	N-D
	1,1,1-TRICHLOROETHANE	UG/L	35	2	94	14	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	L 1	141	N-D
	CHLOROFORM	UG/L	150	27	82	22	38	11
	1,2-TRANS-DICHLOROETHYLENE	UG/L	4	L 1	75	2	43	N-D
	ETHYLBENZENE	UG/L	38	1	97	9	626	4
	METHYLENE CHLORIDE	UG/L	72	31	57	27	131	34
	TETRACHLOROETHYLENE	UG/L	100	3	97	34	1013	17
	TOLUENE	UG/L	230	11	95	190	701	26
	TRICHLOROETHYLENE	UG/L	6	L 1	83	3	1597	2
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	2	2	-	2	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	10	-	N-D	N-D	N-D
	PENTACHLOROPHENOL	UG/L	4	4	-	3	N-D	N-D
	PHENOL	UG/L	390	43	89	300	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	100	7	93	140	8300	63
	1,2-DICHLOROBENZENE	UG/L	11	1	91	19	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	4	L 1	75	9	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	220	N-D
	NAPHTHALENE	UG/L	37	5	86	110	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	17	5	71	190	10800	480
	BUTYL BENZYL PHTHALATE	UG/L	8	2	75	N-D	750	N-D
	DI-N-BUTYL PHTHALATE	UG/L	7	1	86	4	920	N-D
	DIETHYL PHTHALATE	UG/L	8	1	88	11	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	1	-	N-D	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	270	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	270	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	607	N-D
	PHENANTHRENE	UG/L	3	L 1	67	2	607	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	330	N-D
PESTICIDES	ALPHA-ENDOSULFAN	NG/L	1000	N-D	99+	N-D	N-D	N-D
	ALPHA-BHC	NG/L	4400	N-D	99+	U 92000	N-D	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/17
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/17 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ANTIMONY	UG/L	42	7	83	15	200	23
	ARSENIC	UG/L	5	3	40	4	200	19
	CADMIUM	UG/L	9	5	44	8	46	L 16
	CHROMIUM	UG/L	465	33	93	729	3000	1700
	COPPER	UG/L	127	L 2	98	77	7900	400
	CYANIDE	UG/L	4840	78	98	3140	46200	2240
	LEAD	UG/L	81	L 40	51	93	17000	120
	NICKEL	UG/L	98	93	5	150	5700	95
	SELENIUM	UG/L	6	2	67	6	L 40	L 5
	SILVER	UG/L	19	2	89	12	430	140
	THALLIUM	UG/L	1	1	-	1	L 74	L 6
	ZINC	UG/L	406	78	81	393	16000	2800
NON-CONV. METALS	ALUMINUM	UG/L	4600	922	80	7300	NOT RUN	NOT RUN
	BARIUM	UG/L	152	28	82	140	NOT RUN	NOT RUN
	BORON	UG/L	216	755	-	391	NOT RUN	NOT RUN
	CALCIUM	MG/L	41	33	20	42	NOT RUN	NOT RUN
	IRON	UG/L	2350	420	82	2760	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	7	13	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	151	121	20	192	NOT RUN	NOT RUN
	SODIUM	MG/L	361	367	-	361	NOT RUN	NOT RUN
	TIN	UG/L	65	42	35	39	NOT RUN	NOT RUN
	TITANIUM	UG/L	16	L 2	88	39	NOT RUN	NOT RUN
	VANADIUM	UG/L	L 1	L 1	-	2	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 3	L 3	-	4	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/17
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 80/09/17 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	NOT RUN	7500	NOT RUN
	TOTAL SUSP. SOLIDS	MG/L	NOT RUN	4546	NOT RUN
	COD	MG/L	NOT RUN	10400	NOT RUN
	OIL & GREASE	MG/L	NOT RUN	508	NOT RUN
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	NOT RUN	346	NOT RUN
	TOTAL SOLIDS	MG/L	NOT RUN	7324	NOT RUN
	TOTAL DISS. SOLIDS	MG/L	NOT RUN	24248	NOT RUN
	SETTLEABLE SOLIDS	ML/L	NOT RUN	200	NOT RUN
	TOTAL VOLATILE SOLIDS	MG/L	NOT RUN	3704	NOT RUN
	VOLATILE DISS. SOLIDS	MG/L	NOT RUN	606	NOT RUN
	TOTAL VOL. SUS. SOLIDS	MG/L	NOT RUN	3030	NOT RUN
	AMMONIA NITROGEN	MG/L	NOT RUN	48	NOT RUN
	TOC	MG/L	NOT RUN	480	NOT RUN
VOLATILES	BENZENE	UG/L	NOT RUN	8	NOT RUN
	CHLOROBENZENE	UG/L	NOT RUN	25	NOT RUN
	CHLOROETHANE	UG/L	NOT RUN	2	NOT RUN
	1,2-TRANS-DICHLOROETHYLENE	UG/L	NOT RUN	3	NOT RUN
	ETHYLBENZENE	UG/L	NOT RUN	38	NOT RUN
	METHYLENE CHLORIDE	UG/L	NOT RUN	2	NOT RUN
	TOLUENE	UG/L	NOT RUN	110	NOT RUN
	VINYL CHLORIDE	UG/L	NOT RUN	9	NOT RUN
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	NOT RUN	3	NOT RUN
	PHENOL	UG/L	NOT RUN	140	NOT RUN
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	NOT RUN	450	NOT RUN
	1,2-DICHLOROBENZENE	UG/L	NOT RUN	43	NOT RUN
	1,4-DICHLOROBENZENE	UG/L	NOT RUN	77	NOT RUN
	FLUORANTHENE	UG/L	NOT RUN	7	NOT RUN
	NAPHTHALENE	UG/L	NOT RUN	170	NOT RUN
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	NOT RUN	98	NOT RUN
	BUTYL BENZYL PHTHALATE	UG/L	NOT RUN	30	NOT RUN
	DI-N-BUTYL PHTHALATE	UG/L	NOT RUN	15	NOT RUN
	DI-N-OCTYL PHTHALATE	UG/L	NOT RUN	23	NOT RUN
	DIETHYL PHTHALATE	UG/L	NOT RUN	13	NOT RUN
	PHENANTHRENE	UG/L	NOT RUN	27	NOT RUN
	PYRENE	UG/L	NOT RUN	8	NOT RUN
PESTICIDES	ENDRIN ALDEHYDE	NG/L	NOT RUN	1700	NOT RUN
	DELTA-BHC	NG/L	NOT RUN	1300	NOT RUN
METALS	ANTIMONY	UG/L	NOT RUN	21	NOT RUN
	ARSENIC	UG/L	NOT RUN	228	NOT RUN
	BERYLLIUM	UG/L	NOT RUN	11	NOT RUN
	CADMIUM	UG/L	NOT RUN	76	NOT RUN
	CHROMIUM	UG/L	NOT RUN	2500	NOT RUN
	COPPER	UG/L	NOT RUN	2660	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/17
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 80/09/17 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
METALS	LEAD	UG/L	NOT RUN	2100	NOT RUN
	MERCURY	MG/L	NOT RUN	25000	NOT RUN
	NICKEL	UG/L	NOT RUN	1040	NOT RUN
	SELENIUM	UG/L	NOT RUN	26	NOT RUN
	SILVER	UG/L	NOT RUN	300	NOT RUN
	ZINC	UG/L	NOT RUN	8300	NOT RUN
NON-CONV. METALS	ALUMINUM	UG/L	NOT RUN	92500	NOT RUN
	BARIUM	UG/L	NOT RUN	2730	NOT RUN
	BORON	UG/L	NOT RUN	418	NOT RUN
	CALCIUM	MG/L	NOT RUN	597	NOT RUN
	COBALT	UG/L	NOT RUN	300	NOT RUN
	IRON	UG/L	NOT RUN	64200	NOT RUN
	MAGNESIUM	MG/L	NOT RUN	65	NOT RUN
	MANGANESE	UG/L	NOT RUN	3780	NOT RUN
	MOLYBDENUM	UG/L	NOT RUN	156	NOT RUN
	SODIUM	MG/L	NOT RUN	339	NOT RUN
	TIN	UG/L	NOT RUN	384	NOT RUN
	TITANIUM	UG/L	NOT RUN	509	NOT RUN
	VANADIUM	UG/L	NOT RUN	93	NOT RUN
	YTTRIUM	UG/L	NOT RUN	131	NOT RUN

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/18 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	540	45	92	585	31000	4200
	TOTAL SUSP. SOLIDS	MG/L	357	51	86	352	42206	3553
	COD	MG/L	1300	270	79	1100	79000	6000
	OIL & GREASE	MG/L	148	NOT RUN	-	53	12450	90
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	600	148	75	906	1076	402
	TOTAL SOLIDS	MG/L	1630	1288	21	1442	55210	4522
	TOTAL DISS. SOLIDS	MG/L	1129	1216	-	1144	7500	1974
	SETTLEABLE SOLIDS	ML/L	13	L 1	92	L 1	1000	950
	TOTAL VOLATILE SOLIDS	MG/L	494	306	38	360	31976	2412
	VOLATILE DISS. SOLIDS	MG/L	207	210	-	236	5147	1184
	TOTAL VOL. SUS. SOLIDS	MG/L	214	35	84	236	26323	2632
	AMMONIA NITROGEN	MG/L	19	13	32	19	16	15
	TOC	MG/L	240	57	76	260	1400	600
VOLATILES	BENZENE	UG/L	27	3	89	26	88	4
	CHLOROBENZENE	UG/L	2	L 1	50	2	44	2
	1,1,1-TRICHLOROETHANE	UG/L	140	2	99	48	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	3	N-D	99+	L 1	125	N-D
	CHLOROFORM	UG/L	110	19	83	61	61	14
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	L 1	50	2	24	N-D
	ETHYLBENZENE	UG/L	8	L 1	88	9	451	5
	METHYLENE CHLORIDE	UG/L	55	13	76	46	148	9
	TRICHLOROFLUOROMETHANE	UG/L	N-D	N-D	-	N-D	34	N-D
	DICHLORODIFLUOROMETHANE	UG/L	N-D	N-D	-	N-D	N-D	14
	TETRACHLOROETHYLENE	UG/L	51	2	96	43	963	16
	TOLUENE	UG/L	2800	180	94	980	6180	178
	TRICHLOROETHYLENE	UG/L	8	L 1	88	6	885	2
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	3	-	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	2	3	-	2	N-D	N-D
	PENTACHLOROPHENOL	UG/L	6	7	-	8	N-D	N-D
	PHENOL	UG/L	420	76	82	320	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	7	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	75	16	79	170	3800	N-D
	1,2-DICHLOROBENZENE	UG/L	10	2	80	20	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	370	N-D
	1,4-DICHLOROBENZENE	UG/L	6	L 1	83	9	320	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	350	N-D
	NAPHTHALENE	UG/L	120	24	80	140	1100	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	19	25	-	46	6500	370
	BUTYL BENZYL PHTHALATE	UG/L	4	N-D	99+	18	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	5	3	40	10	N-D	N-D
	DIETHYL PHTHALATE	UG/L	4	2	50	7	N-D	N-D
	PHENANTHRENE	UG/L	4	L 1	75	3	N-D	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	420	N-D
PESTICIDES	GAMMA-BHC	NG/L	U 12000	1400	88	U 5100	N-D	N-D

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/18 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ANTIMONY	UG/L	4	6	-	6	130	25
	ARSENIC	UG/L	6	4	33	5	130	22
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	L 170	88
	CADMIUM	UG/L	9	6	33	10	45	L 16
	CHROMIUM	UG/L	354	69	81	275	5000	760
	COPPER	UG/L	164	8	95	93	9700	190
	CYANIDE	UG/L	3520	160	95	2750	45400	2650
	LEAD	UG/L	146	90	38	125	9200	160
	MERCURY	NG/L	2000	L 1000	50	L 1000	120000	L 4000
	NICKEL	UG/L	91	78	14	96	1400	79
	SELENIUM	UG/L	2	4	-	2	L 32	6
	SILVER	UG/L	32	2	94	15	680	130
	THALLIUM	UG/L	1	1	-	1	L 21	L 4
	ZINC	UG/L	732	98	87	466	50000	2300
NON-CONV. METALS	ALUMINUM	UG/L	8310	1180	86	5180	NOT RUN	NOT RUN
	BARIUM	UG/L	242	36	85	167	NOT RUN	NOT RUN
	BORON	UG/L	195	369	-	347	NOT RUN	NOT RUN
	CALCIUM	MG/L	46	33	28	40	NOT RUN	NOT RUN
	COBALT	UG/L	L 50	L 50	-	56	NOT RUN	NOT RUN
	IRON	UG/L	5250	574	89	3160	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	10	7	30	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	229	111	52	197	NOT RUN	NOT RUN
	SODIUM	MG/L	422	404	4	396	NOT RUN	NOT RUN
	TIN	UG/L	75	54	28	55	NOT RUN	NOT RUN
	TITANIUM	UG/L	70	L 2	97	32	NOT RUN	NOT RUN
	VANADIUM	UG/L	3	L 2	33	5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	5	L 4	20	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/18
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 80/09/18 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	83	NOT RUN	NOT RUN
	TOTAL SUSP. SOLIDS	MG/L	141	NOT RUN	NOT RUN
	COD	MG/L	380	NOT RUN	NOT RUN
	OIL & GREASE	MG/L	3	NOT RUN	NOT RUN
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	179	NOT RUN	NOT RUN
	TOTAL SOLIDS	MG/L	1400	NOT RUN	NOT RUN
	TOTAL DISS. SOLIDS	MG/L	970	NOT RUN	NOT RUN
	TOTAL VOLATILE SOLIDS	MG/L	614	NOT RUN	NOT RUN
	VOLATILE DISS. SOLIDS	MG/L	279	NOT RUN	NOT RUN
	TOTAL VOL. SUS. SOLIDS	MG/L	64	NOT RUN	NOT RUN
	AMMONIA NITROGEN	MG/L	51	NOT RUN	NOT RUN
	TOC	MG/L	100	NOT RUN	NOT RUN
VOLATILES	TOLUENE	UG/L	2	NOT RUN	NOT RUN
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	4	NOT RUN	NOT RUN
	2,4-DICHLOROPHENOL	UG/L	2	NOT RUN	NOT RUN
	PENTACHLOROPHENOL	UG/L	9	NOT RUN	NOT RUN
	PHENOL	UG/L	240	NOT RUN	NOT RUN
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	13	NOT RUN	NOT RUN
	1,2-DICHLOROBENZENE	UG/L	2	NOT RUN	NOT RUN
	NAPHTHALENE	UG/L	24	NOT RUN	NOT RUN
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	NOT RUN	NOT RUN
	DI-N-BUTYL PHTHALATE	UG/L	1	NOT RUN	NOT RUN
	DIETHYL PHTHALATE	UG/L	2	NOT RUN	NOT RUN
METALS	ANTIMONY	UG/L	3	NOT RUN	NOT RUN
	ARSENIC	UG/L	8	NOT RUN	NOT RUN
	CADMIUM	UG/L	11	NOT RUN	NOT RUN
	CHROMIUM	UG/L	70	NOT RUN	NOT RUN
	COPPER	UG/L	53	NOT RUN	NOT RUN
	CYANIDE	UG/L	2700	NOT RUN	NOT RUN
	LEAD	UG/L	145	NOT RUN	NOT RUN
	NICKEL	UG/L	85	NOT RUN	NOT RUN
	SELENIUM	UG/L	4	NOT RUN	NOT RUN
	SILVER	UG/L	11	NOT RUN	NOT RUN
	THALLIUM	UG/L	1	NOT RUN	NOT RUN
	ZINC	UG/L	195	NOT RUN	NOT RUN
NON-CONV. METALS	ALUMINUM	UG/L	2670	NOT RUN	NOT RUN
	BARIUM	UG/L	105	NOT RUN	NOT RUN
	BORON	UG/L	144	NOT RUN	NOT RUN
	CALCIUM	MG/L	110	NOT RUN	NOT RUN
	IRON	UG/L	2190	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	37	NOT RUN	NOT RUN
	MANGANESE	UG/L	181	NOT RUN	NOT RUN
	SODIUM	MG/L	267	NOT RUN	NOT RUN

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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 80/09/18 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
NON-CONV. METALS	TIN	UG/L	91	NOT RUN	NOT RUN
	TITANIUM	UG/L	21	NOT RUN	NOT RUN
	YTTRIUM	UG/L	4	NOT RUN	NOT RUN

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/19 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	460	60	87	300	25000	4400
	TOTAL SUSP. SOLIDS	MG/L	464	53	89	215	30000	5294
	COD	MG/L	1100	280	75	900	80000	6400
	OIL & GREASE	MG/L	132	4	97	38	7500	115
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1089	210	81	1834	2312	346
	TOTAL SOLIDS	MG/L	2054	1346	34	1788	43756	5540
	TOTAL DISS. SOLIDS	MG/L	1164	1281	-	1295	3043	2353
	SETTLEABLE SOLIDS	ML/L	12	L 1	92	L 1	925	990
	VOLATILE DISS. SOLIDS	MG/L	282	289	-	260	652	1618
	TOTAL VOL. SUS. SOLIDS	MG/L	236	40	83	100	20217	4118
	AMMONIA NITROGEN	MG/L	22	12	45	20	22	14
	TOC	MG/L	150	58	61	160	1200	350
VOLATILES	BENZENE	UG/L	16	2	88	19	N-D	2
	CHLOROBENZENE	UG/L	L 1	N-D	-	L 1	41	N-D
	1,1,1-TRICHLOROETHANE	UG/L	8	2	75	15	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	L 1	N-D	-	L 1	39	N-D
	CHLOROFORM	UG/L	36	40	-	56	44	12
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	L 1	-	2	13	N-D
	ETHYLBENZENE	UG/L	6	L 1	83	6	250	6
	METHYLENE CHLORIDE	UG/L	58	8	86	45	49	N-D
	TETRACHLOROETHYLENE	UG/L	37	3	92	33	97	17
	TOLUENE	UG/L	190	37	81	330	674	95
	TRICHLOROETHYLENE	UG/L	3	L 1	67	4	382	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	1	1	-	1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	7	N-D	99+	14	N-D	N-D
	PHENOL	UG/L	720	1	99+	680	910	204
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	160	3	98	160	3900	N-D
	1,2-DICHLOROBENZENE	UG/L	12	L 1	92	13	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	180	N-D
	1,4-DICHLOROBENZENE	UG/L	9	L 1	89	8	160	N-D
	FLUORANTHENE	UG/L	N-D	L 1	-	N-D	160	N-D
	NAPHTHALENE	UG/L	100	3	97	140	1600	57
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	10	7	30	14	4200	210
	BUTYL BENZYL PHTHALATE	UG/L	2	L 1	50	5	620	N-D
	DI-N-BUTYL PHTHALATE	UG/L	4	2	50	5	520	N-D
	DIETHYL PHTHALATE	UG/L	5	6	-	5	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	120	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	120	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	580	46
	PHENANTHRENE	UG/L	3	2	33	5	580	46
	PYRENE	UG/L	N-D	L 1	-	N-D	170	N-D
PESTICIDES	GAMMA-BHC	NG/L	1900	L 1000	47	N-D	N-D	N-D
METALS	ANTIMONY	UG/L	4	1	75	6	95	12
	ARSENIC	UG/L	18	4	78	12	150	21

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/19
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/19 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	1	L 1	-	L 1	L 190	L 70
	CADMIUM	UG/L	10	7	30	9	L 31	L 16
	CHROMIUM	UG/L	249	56	78	147	1800	1400
	COPPER	UG/L	124	12	90	88	5100	420
	CYANIDE	UG/L	4520	104	98	3100	44800	3700
	LEAD	UG/L	164	74	55	119	13000	700
	MERCURY	NG/L	L 1000	L 1000	-	L 1000	L 10000	8000
	NICKEL	UG/L	123	66	46	103	1200	150
	SELENIUM	UG/L	2	5	-	4	L 26	6
	SILVER	UG/L	24	4	83	25	320	160
	THALLIUM	UG/L	1	1	-	1	L 8	L 6
	ZINC	UG/L	526	77	85	408	24000	4200
NON-CONV. METALS	ALUMINUM	UG/L	15100	1130	93	8250	NOT RUN	NOT RUN
	BARIUM	UG/L	213	38	82	146	NOT RUN	NOT RUN
	BORON	UG/L	183	261	-	169	NOT RUN	NOT RUN
	CALCIUM	MG/L	56	35	38	42	NOT RUN	NOT RUN
	COBALT	UG/L	87	54	38	61	NOT RUN	NOT RUN
	IRON	UG/L	9120	632	93	4010	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	12	8	33	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	249	108	57	203	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	41	L 35	15	L 35	NOT RUN	NOT RUN
	SODIUM	MG/L	411	415	-	413	NOT RUN	NOT RUN
	TIN	UG/L	58	65	-	57	NOT RUN	NOT RUN
	TITANIUM	UG/L	106	3	97	53	NOT RUN	NOT RUN
	VANADIUM	UG/L	16	L 2	88	6	NOT RUN	NOT RUN
	YTTRIUM	UG/L	9	L 4	56	6	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/19
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 80/09/19 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	NOT RUN	NOT RUN	1
	OIL & GREASE	MG/L	NOT RUN	NOT RUN	5
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	NOT RUN	NOT RUN	26
	TOTAL SOLIDS	MG/L	NOT RUN	NOT RUN	152
	TOTAL DISS. SOLIDS	MG/L	NOT RUN	NOT RUN	65
	TOTAL VOLATILE SOLIDS	MG/L	NOT RUN	NOT RUN	94
	VOLATILE DISS. SOLIDS	MG/L	NOT RUN	NOT RUN	21
	TOC	MG/L	NOT RUN	NOT RUN	4
VOLATILES	CHLOROFORM	UG/L	NOT RUN	NOT RUN	37
	DICHLOROBROMOMETHANE	UG/L	NOT RUN	NOT RUN	11
	CHLORODIBROMOMETHANE	UG/L	NOT RUN	NOT RUN	2
	TOLUENE	UG/L	NOT RUN	NOT RUN	1
BASE-NEUTRALS	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	NOT RUN	NOT RUN	1
METALS	ANTIMONY	UG/L	NOT RUN	NOT RUN	2
	ARSENIC	UG/L	NOT RUN	NOT RUN	2
	CADMIUM	UG/L	NOT RUN	NOT RUN	9
	CHROMIUM	UG/L	NOT RUN	NOT RUN	7
	COPPER	UG/L	NOT RUN	NOT RUN	20
	CYANIDE	UG/L	NOT RUN	NOT RUN	50
	LEAD	UG/L	NOT RUN	NOT RUN	82
	MERCURY	MG/L	NOT RUN	NOT RUN	9000
	NICKEL	UG/L	NOT RUN	NOT RUN	13
	SELENIUM	UG/L	NOT RUN	NOT RUN	2
	SILVER	UG/L	NOT RUN	NOT RUN	2
	ZINC	UG/L	NOT RUN	NOT RUN	16
NON-CONV. METALS	ALUMINUM	UG/L	NOT RUN	NOT RUN	80
	BARIUM	UG/L	NOT RUN	NOT RUN	24
	CALCIUM	MG/L	NOT RUN	NOT RUN	24
	COBALT	UG/L	NOT RUN	NOT RUN	73
	IRON	UG/L	NOT RUN	NOT RUN	69
	MAGNESIUM	MG/L	NOT RUN	NOT RUN	5
	MANGANESE	UG/L	NOT RUN	NOT RUN	5
	SODIUM	MG/L	NOT RUN	NOT RUN	10
	TIN	UG/L	NOT RUN	NOT RUN	59
	VANADIUM	UG/L	NOT RUN	NOT RUN	3

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/19
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/20 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	440	55	88	360	17000	3800
	TOTAL SUSP. SOLIDS	MG/L	362	44	88	191	42000	4366
	COD	MG/L	810	230	72	620	55000	5600
	OIL & GREASE	MG/L	61	4	93	31	5900	200
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1931	564	71	1284	2565	543
	TOTAL SOLIDS	MG/L	1084	1192	-	986	52486	4786
	TOTAL DISS. SOLIDS	MG/L	692	1030	-	726	4800	2394
	SETTLEABLE SOLIDS	ML/L	10	2	80	4	990	900
	TOTAL VOLATILE SOLIDS	MG/L	270	222	18	228	27180	2682
	VOLATILE DISS. SOLIDS	MG/L	81	184	-	83	2800	1127
	TOTAL VOL. SUS. SOLIDS	MG/L	235	36	85	112	23000	2958
	AMMONIA NITROGEN	MG/L	23	14	39	21	32	15
	TOC	MG/L	140	48	66	130	1500	625
VOLATILES	BENZENE	UG/L	11	1	91	11	N-D	2
	CHLOROBENZENE	UG/L	2	L 1	50	L 1	66	N-D
	1,1,1-TRICHLOROETHANE	UG/L	10	L 1	90	15	N-D	N-D
	CHLOROFORM	UG/L	19	15	21	21	N-D	5
	1,2-TRANS-DICHLOROETHYLENE	UG/L	3	L 1	67	3	123	N-D
	ETHYLBENZENE	UG/L	39	2	95	46	215	5
	METHYLENE CHLORIDE	UG/L	6	5	17	5	30	N-D
	TETRACHLOROETHYLENE	UG/L	170	3	98	64	N-D	22
	TOLUENE	UG/L	570	35	94	480	522	41
	TRICHLOROETHYLENE	UG/L	33	L 1	97	6	47	7
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	3	2	33	3	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	2	L 1	50	L 1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	9	4	56	7	N-D	N-D
	PHENOL	UG/L	680	15	98	450	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	2	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	52	10	81	31	2900	N-D
	1,2-DICHLOROBENZENE	UG/L	4	L 1	75	2	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	2	N-D	99+	L 1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	3	L 1	67	2	260	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	202	N-D
	NAPHTHALENE	UG/L	44	4	91	23	1800	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	15	2	87	9	6060	209
	BUTYL BENZYL PHTHALATE	UG/L	2	N-D	99+	1	860	N-D
	DI-N-BUTYL PHTHALATE	UG/L	3	1	67	2	730	N-D
	DIETHYL PHTHALATE	UG/L	10	1	90	11	N-D	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	520	N-D
	PHENANTHRENE	UG/L	2	L 1	50	2	520	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	230	N-D
PESTICIDES	GAMMA-BHC	MG/L	U 7700	N-D	99+	3800	N-D	N-D
METALS	ANTIMONY	UG/L	8	5	38	6	74	26
	ARSENIC	UG/L	12	6	50	10	280	24

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/20
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/20 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	310	76
	CADMIUM	UG/L	10	5	50	8	L 42	L 16
	CHROMIUM	UG/L	130	40	69	104	6000	720
	COPPER	UG/L	125	20	84	69	8900	400
	CYANIDE	UG/L	7580	72	99	4630	39400	2580
	LEAD	UG/L	152	81	47	113	14000	740
	MERCURY	NG/L	L 1000	L 1000	-	L 1000	L 12000	9000
	NICKEL	UG/L	140	103	26	277	1400	260
	SELENIUM	UG/L	3	2	33	3	L 32	6
	SILVER	UG/L	23	2	91	18	940	180
	THALLIUM	UG/L	1	2	-	2	L 8	L 37
	ZINC	UG/L	474	90	81	322	29000	4200
NON-CONV. METALS	ALUMINUM	UG/L	7580	892	88	3540	NOT RUN	NOT RUN
	BARIUM	UG/L	150	34	77	114	NOT RUN	NOT RUN
	BORON	UG/L	288	219	24	77	NOT RUN	NOT RUN
	CALCIUM	MG/L	42	37	12	42	NOT RUN	NOT RUN
	COBALT	UG/L	58	L 50	14	71	NOT RUN	NOT RUN
	IRON	UG/L	4430	562	87	2520	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	323	111	66	236	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	38	L 35	8	38	NOT RUN	NOT RUN
	SODIUM	MG/L	240	357	-	262	NOT RUN	NOT RUN
	TIN	UG/L	69	78	-	47	NOT RUN	NOT RUN
	TITANIUM	UG/L	46	L 2	96	18	NOT RUN	NOT RUN
	VANADIUM	UG/L	8	L 1	88	2	NOT RUN	NOT RUN
	YTTRIUM	UG/L	5	L 3	40	4	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/20
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/21 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	330	40	88	270	25000	2000
	TOTAL SUSP. SOLIDS	MG/L	244	19	92	177	31429	4133
	COD	MG/L	660	150	77	580	47000	4400
	OIL & GREASE	MG/L	40	N-D	99+	24	7500	200
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	869	106	88	716	1189	205
	TOTAL SOLIDS	MG/L	980	888	9	956	42512	4400
	TOTAL DISS. SOLIDS	MG/L	700	678	3	597	1667	1733
	SETTLEABLE SOLIDS	ML/L	7	L 1	86	14	925	900
	TOTAL VOLATILE SOLIDS	MG/L	312	148	53	244	21770	2540
	VOLATILE DISS. SOLIDS	MG/L	107	95	11	60	476	1333
	TOTAL VOL. SUS. SOLIDS	MG/L	178	16	91	96	16905	3200
	AMMONIA NITROGEN	MG/L	22	10	55	22	27	13
	TOC	MG/L	130	33	75	120	1500	625
VOLATILES	BENZENE	UG/L	6	1	83	12	N-D	3
	CHLOROBENZENE	UG/L	2	L 1	50	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	42	2	95	25	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	L 1	N-D	-	L 1	82	N-D
	CHLOROFORM	UG/L	17	19	-	11	N-D	3
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	L 1	50	3	139	N-D
	ETHYLBENZENE	UG/L	730	3	99+	32	163	5
	METHYLENE CHLORIDE	UG/L	9	6	33	6	21	N-D
	TETRACHLOROETHYLENE	UG/L	35	1	97	15	N-D	14
	TOLUENE	UG/L	690	16	98	350	332	36
	TRICHLOROETHYLENE	UG/L	6	1	83	8	N-D	2
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	3	2	33	2	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	L 1	1	-	1	N-D	N-D
	PENTACHLOROPHENOL	UG/L	7	3	57	4	N-D	N-D
	PHENOL	UG/L	260	6	98	600	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	2	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	65	9	86	48	1500	33
	1,2-DICHLOROBENZENE	UG/L	1	L 1	-	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	2	L 1	50	2	180	N-D
	FLUORANTHENE	UG/L	1	N-D	99+	N-D	160	N-D
	NAPHTHALENE	UG/L	20	10	50	23	607	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	15	2	87	7	3700	330
	BUTYL BENZYL PHTHALATE	UG/L	3	N-D	99+	N-D	650	N-D
	DI-N-BUTYL PHTHALATE	UG/L	4	1	75	2	440	N-D
	DIETHYL PHTHALATE	UG/L	4	1	75	2	N-D	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	380	N-D
	PHENANTHRENE	UG/L	5	L 1	80	3	380	N-D
	PYRENE	UG/L	2	N-D	99+	N-D	190	N-D
PESTICIDES	ALPHA-ENDOSULFAN	NG/L	2700	N-D	99+	N-D	N-D	N-D
METALS	ANTIMONY	UG/L	4	8	-	3	55	27
	ARSENIC	UG/L	5	4	20	6	180	22

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/21
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 80/09/21 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	230	L 70
	CADMIUM	UG/L	10	7	30	11	110	L 16
	CHROMIUM	UG/L	41	23	44	100	4500	1300
	COPPER	UG/L	97	18	81	96	6400	380
	CYANIDE	UG/L	5270	145	97	4180	43800	2480
	LEAD	UG/L	148	89	40	143	8100	1100
	MERCURY	NG/L	L 1000	L 1000	-	L 1000	L 10000	9000
	NICKEL	UG/L	31	78	-	58	1000	150
	SELENIUM	UG/L	2	2	-	2	L 27	10
	SILVER	UG/L	16	1	94	265	1400	180
	THALLIUM	UG/L	1	1	-	1	L 13	L 5
	ZINC	UG/L	389	102	74	836	40000	4900
NON-CONV. METALS	ALUMINUM	UG/L	5000	357	93	5760	NOT RUN	NOT RUN
	BARIUM	UG/L	113	26	77	125	NOT RUN	NOT RUN
	BORON	UG/L	242	144	40	73	NOT RUN	NOT RUN
	CALCIUM	MG/L	38	41	-	43	NOT RUN	NOT RUN
	COBALT	UG/L	L 49	84	-	66	NOT RUN	NOT RUN
	IRON	UG/L	2230	363	84	3680	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	195	151	23	272	NOT RUN	NOT RUN
	SODIUM	MG/L	235	248	-	212	NOT RUN	NOT RUN
	TIN	UG/L	62	64	-	53	NOT RUN	NOT RUN
	TITANIUM	UG/L	21	L 2	90	36	NOT RUN	NOT RUN
	VANADIUM	UG/L	3	2	33	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 3	L 3	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 80/09/21
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/11 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	230	28	88	190	7400	2300
	TOTAL SUSP. SOLIDS	MG/L	159	17	89	153	5780	5470
	COD	MG/L	320	160	50	410	17000	9000
	OIL & GREASE	MG/L	18	7	61	13	2270	405
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	350	73	79	400	500	150
	TOTAL SOLIDS	MG/L	711	743	-	779	6380	5960
	TOTAL DISS. SOLIDS	MG/L	552	726	-	626	596	492
	TOTAL VOLATILE SOLIDS	MG/L	234	127	46	151	3760	4060
	VOLATILE DISS. SOLIDS	MG/L	140	114	19	86	380	130
	TOTAL VOL. SUS. SOLIDS	MG/L	94	13	86	65	3380	3930
	AMMONIA NITROGEN	MG/L	4	3	25	4	12	8
	TOC	MG/L	185	56	70	185	1800	1100
VOLATILES	BENZENE	UG/L	18	6	67	10	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	15	3
	CHLOROFORM	UG/L	96	60	38	54	49	23
	ETHYLBENZENE	UG/L	N-D	N-D	-	9	92	N-D
	METHYLENE CHLORIDE	UG/L	440	24	95	37	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	22	3	86	26	52	20
	TOLUENE	UG/L	160	18	89	130	175	N-D
	TRICHLOROETHYLENE	UG/L	6	N-D	99+	3	15	3
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	3	2	33	3	N-D	N-D
	PENTACHLOROPHENOL	UG/L	11	N-D	99+	N-D	N-D	150
	PHENOL	UG/L	30	170	-	23	160	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	2	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	200	42
	1,3-DICHLOROBENZENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	250	N-D
	NAPHTHALENE	UG/L	17	N-D	99+	29	200	27
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	15	6	60	10	830	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	N-D	300	N-D
	DI-N-BUTYL PHTHALATE	UG/L	N-D	3	-	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	N-D	3	-	N-D	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	270	N-D
	BENZO (A)PYRENE	UG/L	N-D	N-D	-	N-D	700	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	220	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	270	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	50	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	53	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	140	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	140	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	40	L 20
	ARSENIC	UG/L	L 25	L 25	-	L 25	220	80
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	30	30
	CADMIUM	UG/L	L 5	L 5	-	L 5	220	80
	CHROMIUM	UG/L	280	70	75	380	20000	12000

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/11
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/11 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	COPPER	UG/L	110	32	71	97	5500	1200
	CYANIDE	UG/L	27	50	-	83	534	13
	LEAD	UG/L	97	L 50	48	76	2700	920
	MERCURY	NG/L	500	L 300	40	L 300	20000	L 10000
	NICKEL	UG/L	L 50	87	-	54	2700	580
	SILVER	UG/L	6	1	83	5	560	210
	ZINC	UG/L	830	120	86	320	19000	4100
NON-CONV. METALS	ALUMINUM	UG/L	4680	370	92	5110	NOT RUN	NOT RUN
	BARIUM	UG/L	84	21	75	87	NOT RUN	NOT RUN
	BORON	UG/L	30	77	-	68	NOT RUN	NOT RUN
	CALCIUM	MG/L	38	40	-	40	NOT RUN	NOT RUN
	COBALT	UG/L	12	9	25	15	NOT RUN	NOT RUN
	IRON	UG/L	4550	370	92	3980	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	6	6	-	6	NOT RUN	NOT RUN
	MANGANESE	UG/L	210	190	10	230	NOT RUN	NOT RUN
	SODIUM	MG/L	119	205	-	152	NOT RUN	NOT RUN
	VANADIUM	UG/L	8	L 5	38	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	8	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/11
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/12 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	190	20	89	180	12000	2900
	TOTAL SUSP. SOLIDS	MG/L	137	21	85	101	27600	6670
	COD	MG/L	330	85	74	320	24000	7900
	OIL & GREASE	MG/L	32	4	88	26	4760	374
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	480	20	96	480	600	50
	TOTAL SOLIDS	MG/L	798	623	22	787	28400	7220
	TOTAL DISS. SOLIDS	MG/L	661	602	9	686	822	548
	TOTAL VOLATILE SOLIDS	MG/L	237	82	65	186	16300	4840
	VOLATILE DISS. SOLIDS	MG/L	152	66	57	134	390	150
	TOTAL VOL. SUS. SOLIDS	MG/L	85	14	81	52	15900	4690
	AMMONIA NITROGEN	MG/L	6	1	83	5	16	4
	TOC	MG/L	165	40	76	220	1900	1100
VOLATILES	BENZENE	UG/L	20	3	85	23	10	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	N-D	5	N-D
	1,1,1-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	10	N-D
	CHLOROFORM	UG/L	58	61	-	60	78	20
	ETHYLBENZENE	UG/L	N-D	N-D	-	25	55	3
	METHYLENE CHLORIDE	UG/L	240	89	63	71	21	N-D
	TETRACHLOROETHYLENE	UG/L	13	1	92	27	40	5
	TOLUENE	UG/L	N-D	N-D	-	640	130	N-D
	TRICHLOROETHYLENE	UG/L	4	N-D	99+	6	10	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	5	3	40	5	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	N-D	-	2	N-D	N-D
	PHENOL	UG/L	28	2	93	25	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	6	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	2	N-D	99+	5	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	500	N-D
	NAPHTHALENE	UG/L	17	N-D	99+	19	N-D	N-D
	DIETHYL PHTHALATE	UG/L	9	20	-	20	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	10	-	N-D	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	240	N-D
	BENZO (A)PYRENE	UG/L	N-D	N-D	-	N-D	160	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	260	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	280	N-D
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	N-D	56	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	1	140	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	130	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	1	360	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	420	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	100	20
	ARSENIC	UG/L	L 25	L 25	-	L 25	660	100
	BERYLLIUM	UG/L	L 1	L 1	-	1	180	28
	CADMIUM	UG/L	L 5	L 5	-	L 5	270	70
	CHROMIUM	UG/L	75	45	40	78	20000	7200
	COPPER	UG/L	85	18	79	62	11000	900

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/12
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/12 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CYANIDE	UG/L	26	20	23	69	333	219
	LEAD	UG/L	L 50	L 50	-	50	6600	620
	MERCURY	MG/L	L 300	L 300	-	L 300	51000	L 6000
	NICKEL	UG/L	190	L 50	74	92	6600	480
	SILVER	UG/L	3	1	67	4	550	150
	ZINC	UG/L	390	68	83	270	36000	3400
NON-CONV. METALS	ALUMINUM	UG/L	3870	440	89	4210	NOT RUN	NOT RUN
	BARIUM	UG/L	65	22	66	71	NOT RUN	NOT RUN
	BORON	UG/L	61	48	21	74	NOT RUN	NOT RUN
	CALCIUM	MG/L	44	43	2	46	NOT RUN	NOT RUN
	COBALT	UG/L	6	6	-	9	NOT RUN	NOT RUN
	IRON	UG/L	3000	330	89	3060	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	7	6	14	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	250	180	28	250	NOT RUN	NOT RUN
	SODIUM	MG/L	150	162	-	160	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	85	-	L 50	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	6	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	6	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/12
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/12 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	70	1300	L 1
	TOTAL SUSP. SOLIDS	MG/L	630	588	L 2
	COD	MG/L	340	1000	L 25
	OIL & GREASE	MG/L	24	74	L 2
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	244	65	L 5
	TOTAL SOLIDS	MG/L	2030	2230	125
	TOTAL DISS. SOLIDS	MG/L	1400	1640	125
	TOTAL VOLATILE SOLIDS	MG/L	318	734	54
	VOLATILE DISS. SOLIDS	MG/L	120	368	54
	TOTAL VOL. SUS. SOLIDS	MG/L	198	366	L 2
	AMMONIA NITROGEN	MG/L	80	102	L 1
	TOC	MG/L	195	335	5
VOLATILES	BENZENE	UG/L	3	13	1
	CHLOROBENZENE	UG/L	N-D	59	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	2	N-D
	CHLOROFORM	UG/L	N-D	N-D	30
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	11	N-D
	ETHYLBENZENE	UG/L	N-D	400	N-D
	METHYLENE CHLORIDE	UG/L	14	33	14
	TOLUENE	UG/L	6	190	5
ACID EXTRACT	PHENOL	UG/L	49	13	N-D
BASE-NEUTRALS	1,3-DICHLOROBENZENE	UG/L	N-D	37	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	11	N-D	N-D
	NAPHTHALENE	UG/L	57	56	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	7	3	N-D
	DIETHYL PHTHALATE	UG/L	24	21	N-D
	ANTHRACENE	UG/L	3	1	N-D
	FLUORENE	UG/L	1	N-D	N-D
	PHENANTHRENE	UG/L	3	1	N-D
	1,215,6-DIBENZANTHRACENE	UG/L	N-D	1	N-D
METALS	CADMIUM	UG/L	L 5	6	L 5
	CHROMIUM	UG/L	320	410	8
	COPPER	UG/L	220	200	30
	CYANIDE	UG/L	26	36	L 10
	LEAD	UG/L	170	190	L 50
	MERCURY	NG/L	1700	1400	L 300
	NICKEL	UG/L	130	140	L 50
	SILVER	UG/L	8	9	L 1
	ZINC	UG/L	840	730	66
NON-CONV. METALS	ALUMINUM	UG/L	11700	13500	53
	BARIUM	UG/L	300	340	25
	BORON	UG/L	190	170	L 20
	CALCIUM	MG/L	294	289	23

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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/12 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
NON-CONV. METALS	COBALT	UG/L	28	27	L 5
	IRON	UG/L	9810	8420	L 30
	MAGNESIUM	MG/L	35	35	3
	MANGANESE	UG/L	2150	2260	12
	SODIUM	MG/L	256	250	6
	TITANIUM	UG/L	L 50	L 50	64
	VANADIUM	UG/L	13	10	L 5
	YTTRIUM	UG/L	140	190	L 5

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/12
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/13 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	230	21	91	310	9400	2700
	TOTAL SUSP. SOLIDS	MG/L	279	21	92	183	31000	6540
	COD	MG/L	580	100	83	570	21000	9900
	OIL & GREASE	MG/L	75	7	91	40	3620	375
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	950	180	81	900	1400	175
	TOTAL SOLIDS	MG/L	1140	736	35	1090	32000	7150
	TOTAL DISS. SOLIDS	MG/L	858	715	17	906	951	608
	TOTAL VOLATILE SOLIDS	MG/L	354	242	32	275	15000	4720
	VOLATILE DISS. SOLIDS	MG/L	174	226	-	176	270	160
	TOTAL VOL. SUS. SOLIDS	MG/L	180	16	91	99	14700	4560
	AMMONIA NITROGEN	MG/L	10	4	60	9	12	9
	TOC	MG/L	215	46	79	210	2200	1900
VOLATILES	BENZENE	UG/L	26	5	81	31	42	5
	CHLOROBENZENE	UG/L	N-D	N-D	-	N-D	7	1
	1,1,1-TRICHLOROETHANE	UG/L	11	N-D	99+	11	5	N-D
	CHLOROFORM	UG/L	61	29	52	66	120	25
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	11	N-D	99+	19	39	10
	METHYLENE CHLORIDE	UG/L	40	22	45	70	N-D	25
	TETRACHLOROETHYLENE	UG/L	18	2	89	24	30	5
	TOLUENE	UG/L	1600	130	92	2000	2000	500
	TRICHLOROETHYLENE	UG/L	12	2	83	17	30	5
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	1	N-D	99+	N-D	N-D	N-D
	2-CHLOROPHENOL	UG/L	24	N-D	99+	14	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	11	N-D	99+	9	N-D	N-D
	PENTACHLOROPHENOL	UG/L	5	N-D	99+	N-D	N-D	N-D
	PHENOL	UG/L	240	5	98	87	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	19	8	58	N-D	890	60
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	5	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	N-D	6	-	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	180	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	N-D	N-D	-	21	N-D	N-D
	NAPHTHALENE	UG/L	N-D	3	-	N-D	340	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	5	3	40	13	1500	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	110	N-D
	BENZO (A)PYRENE	UG/L	N-D	N-D	-	N-D	70	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	130	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	130	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	80	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	170	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	140	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	50	20
	ARSENIC	UG/L	L 25	L 25	-	L 25	640	100
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	33	40
	CADMIUM	UG/L	L 5	L 5	-	L 5	180	100

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/13
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/13 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	UG/L	79	40	49	100	12000	8800
	COPPER	UG/L	60	19	68	62	5800	1200
	CYANIDE	UG/L	26	36	-	92	1240	268
	LEAD	UG/L	L 50	L 50	-	L 50	3100	770
	MERCURY	NG/L	L 300	L 300	-	L 300	25000	L 10000
	NICKEL	UG/L	76	L 50	34	72	3600	740
	SILVER	UG/L	7	1	86	6	480	180
	ZINC	UG/L	370	120	68	300	25000	4400
NON-CONV. METALS	ALUMINUM	UG/L	4590	430	91	9720	NOT RUN	NOT RUN
	BARIUM	UG/L	80	24	70	89	NOT RUN	NOT RUN
	BORON	UG/L	65	60	8	90	NOT RUN	NOT RUN
	CALCIUM	MG/L	45	45	-	50	NOT RUN	NOT RUN
	COBALT	UG/L	6	5	17	9	NOT RUN	NOT RUN
	IRON	UG/L	3240	330	90	3080	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	7	7	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	190	37	290	NOT RUN	NOT RUN
	SODIUM	MG/L	216	209	3	238	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	67	-	58	NOT RUN	NOT RUN
	VANADIUM	UG/L	8	L 5	38	8	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	7	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/13
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/14 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	300	44	85	280	10000	2600
	TOTAL SUSP. SOLIDS	MG/L	249	21	92	173	43400	7210
	COD	MG/L	740	85	89	550	28000	8300
	OIL & GREASE	MG/L	82	6	93	45	3060	527
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1300	60	95	1230	1400	150
	TOTAL SOLIDS	MG/L	1250	894	28	1244	44600	7900
	TOTAL DISS. SOLIDS	MG/L	998	873	13	1070	1170	688
	TOTAL VOLATILE SOLIDS	MG/L	288	119	59	363	18400	4780
	VOLATILE DISS. SOLIDS	MG/L	164	104	37	280	240	180
	TOTAL VOL. SUS. SOLIDS	MG/L	124	15	88	83	18200	4600
	AMMONIA NITROGEN	MG/L	10	8	20	10	19	10
	TOC	MG/L	300	57	81	260	3000	2200
VOLATILES	BENZENE	UG/L	8	2	75	7	10	2
	CHLOROBENZENE	UG/L	N-D	N-D	-	N-D	3	N-D
	1,1,1-TRICHLOROETHANE	UG/L	8	N-D	99+	9	10	N-D
	CHLOROFORM	UG/L	60	30	50	56	75	9
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	N-D	99+	2	N-D	N-D
	ETHYLBENZENE	UG/L	16	N-D	99+	17	30	2
	METHYLENE CHLORIDE	UG/L	45	28	38	60	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	18	4	78	23	40	N-D
	TOLUENE	UG/L	160	15	91	150	430	9
	TRICHLOROETHYLENE	UG/L	8	1	88	8	10	15
ACID EXTRACT	2-CHLOROPHENOL	UG/L	1	N-D	99+	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	4	2	50	N-D	N-D	N-D
	PHENOL	UG/L	4	4	-	150	560	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	6	N-D	99+	13	740	60
	1,3-DICHLOROBENZENE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	1	140	120
	4-CHLOROPHENYL PHENYL ETHER	UG/L	N-D	N-D	-	N-D	120	N-D
	NAPHTHALENE	UG/L	13	2	85	N-D	260	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	N-D	N-D	-	3	N-D	2
	DI-N-BUTYL PHTHALATE	UG/L	N-D	N-D	-	6	N-D	N-D
	DIETHYL PHTHALATE	UG/L	N-D	N-D	-	10	1100	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	N-D	-	15	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	N-D	66
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	N-D	40
	CHRYSENE	UG/L	N-D	N-D	-	N-D	N-D	60
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	4	N-D	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	1	N-D	44
	FLUORENE	UG/L	N-D	N-D	-	N-D	54	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	1	140	40
	PYRENE	UG/L	N-D	N-D	-	1	120	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	130	40

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/14
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/14 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	UG/L	L 25	L 25	-	L 25	1200	130
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	85	35
	CADMIUM	UG/L	L 5	L 5	-	L 5	210	100
	CHROMIUM	UG/L	130	120	8	130	25000	8800
	COPPER	UG/L	80	77	4	64	7700	1300
	CYANIDE	UG/L	118	346	-	377	602	331
	LEAD	UG/L	L 50	L 50	-	L 50	4800	1100
	MERCURY	NG/L	800	L 300	63	L 300	30000	L 10000
	NICKEL	UG/L	100	77	23	86	4100	840
	SELENIUM	UG/L	L 25	L 25	-	L 25	40	L 30
	SILVER	UG/L	10	1	90	9	550	230
	ZINC	UG/L	420	140	67	340	39000	4800
NON-CONV. METALS	ALUMINUM	UG/L	9680	460	95	7480	NOT RUN	NOT RUN
	BARIUM	UG/L	110	25	77	95	NOT RUN	NOT RUN
	BORON	UG/L	120	160	-	150	NOT RUN	NOT RUN
	CALCIUM	MG/L	46	44	4	49	NOT RUN	NOT RUN
	COBALT	UG/L	8	9	-	9	NOT RUN	NOT RUN
	IRON	UG/L	4260	850	80	3580	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	340	210	38	310	NOT RUN	NOT RUN
	SODIUM	MG/L	281	271	4	299	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	57	-	L 50	NOT RUN	NOT RUN
	VANADIUM	UG/L	7	L 5	29	L 5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/14
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/15 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	250	60	76	290	3800	863
	TOTAL SUSP. SOLIDS	MG/L	156	22	86	132	20500	6680
	COD	MG/L	590	140	76	660	17000	9000
	OIL & GREASE	MG/L	30	7	77	23	2060	549
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1150	80	93	1400	1750	138
	TOTAL SOLIDS	MG/L	1240	1030	17	1240	21600	7280
	TOTAL DISS. SOLIDS	MG/L	1080	1000	7	1110	1140	595
	TOTAL VOLATILE SOLIDS	MG/L	299	584	-	361	12000	3570
	VOLATILE DISS. SOLIDS	MG/L	180	570	-	278	300	180
	TOTAL VOL. SUS. SOLIDS	MG/L	119	14	88	83	11700	3390
	AMMONIA NITROGEN	MG/L	17	10	41	16	18	17
	TOC	MG/L	280	76	73	330	1800	720
VOLATILES	BENZENE	UG/L	9	2	78	10	10	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	5	N-D	99+	7	8	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	N-D	4
	CHLOROFORM	UG/L	55	33	40	69	69	29
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	2	N-D	N-D
	ETHYLBENZENE	UG/L	N-D	2	-	17	50	N-D
	METHYLENE CHLORIDE	UG/L	140	47	66	100	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	21	4	81	32	49	8
	TOLUENE	UG/L	220	20	91	250	175	19
	TRICHLOROETHYLENE	UG/L	10	4	60	25	33	5
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	2	1	50	1	N-D	N-D
	PHENOL	UG/L	410	20	95	500	500	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	N-D	60
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	60	N-D
	NAPHTHALENE	UG/L	11	N-D	99+	31	100	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	3	11	-	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	4	N-D	99+	N-D	N-D	N-D
	ACENAPHTHYLENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	N-D	N-D	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	60	40
	ARSENIC	UG/L	L 25	L 25	-	L 25	430	190
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	33	28
	CADMIUM	UG/L	L 5	L 5	-	L 5	100	60
	CHROMIUM	UG/L	140	34	76	210	8500	7900
	COPPER	UG/L	80	42	47	69	4700	1300
	CYANIDE	UG/L	19	45	-	36	410	301
	LEAD	UG/L	L 50	L 50	-	L 50	2900	850
	NICKEL	UG/L	66	58	12	L 50	2200	810
	SILVER	UG/L	2	1	50	3	240	210
	ZINC	UG/L	230	120	48	220	18000	3900

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/15
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/15 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	ALUMINUM	UG/L	2680	530	80	4050	NOT RUN	NOT RUN
	BARIUM	UG/L	73	26	64	91	NOT RUN	NOT RUN
	BORON	UG/L	110	120	-	100	NOT RUN	NOT RUN
	CALCIUM	MG/L	46	46	-	53	NOT RUN	NOT RUN
	COBALT	UG/L	6	8	-	8	NOT RUN	NOT RUN
	IRON	UG/L	1800	460	74	2080	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	270	240	11	330	NOT RUN	NOT RUN
	SODIUM	MG/L	241	279	-	252	NOT RUN	NOT RUN
	TITANIUM	UG/L	61	L 50	18	68	NOT RUN	NOT RUN
	VANADIUM	UG/L	L 5	L 5	-	5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/15
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/16 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	146	26	82	150	3900	860
	TOTAL SUSP. SOLIDS	MG/L	146	17	88	93	14100	5250
	COD	MG/L	340	130	62	400	13000	7400
	OIL & GREASE	MG/L	15	L 2	87	21	5540	505
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	750	33	96	1000	1150	63
	TOTAL SOLIDS	MG/L	783	747	5	765	14800	5800
	TOTAL DISS. SOLIDS	MG/L	637	730	-	672	696	555
	TOTAL VOLATILE SOLIDS	MG/L	198	119	40	184	8490	3750
	VOLATILE DISS. SOLIDS	MG/L	106	108	-	134	360	150
	TOTAL VOL. SUS. SOLIDS	MG/L	92	11	88	50	8130	3600
	AMMONIA NITROGEN	MG/L	11	8	27	13	26	17
	TOC	MG/L	140	48	66	145	1400	430
VOLATILES	BENZENE	UG/L	12	3	75	19	15	N-D
	1,1,1-TRICHLOROETHANE	UG/L	5	N-D	99+	8	10	N-D
	CHLOROFORM	UG/L	34	30	12	54	190	20
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	N-D	99+	2	N-D	N-D
	ETHYLBENZENE	UG/L	9	N-D	99+	23	43	N-D
	METHYLENE CHLORIDE	UG/L	25	820	-	45	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	12	N-D	99+	20	32	3
	TOLUENE	UG/L	270	15	94	430	460	13
	TRICHLOROETHYLENE	UG/L	8	N-D	99+	13	12	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	3	N-D	99+	5	N-D	N-D
	PENTACHLOROPHENOL	UG/L	N-D	N-D	-	N-D	20	N-D
	PHENOL	UG/L	210	9	96	230	280	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	6	N-D	99+	N-D	160	52
	1,3-DICHLOROBENZENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	140	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	19	N-D	99+	N-D	N-D	N-D
	NAPHTHALENE	UG/L	23	N-D	99+	30	180	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	9	N-D	99+	N-D	N-D	N-D
	ACENAPHTHYLENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	60	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	100	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	80	20
	ARSENIC	UG/L	L 25	L 25	-	L 25	840	120
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	35	21
	CADMIUM	UG/L	L 5	L 5	-	L 5	100	60
	CHROMIUM	UG/L	29	28	3	59	10000	6400
	COPPER	UG/L	59	140	-	55	4400	1100
	CYANIDE	UG/L	113	34	70	33	405	190
	LEAD	UG/L	88	L 50	43	L 50	3400	690
	MERCURY	NG/L	L 300	L 300	-	L 300	10000	L 10000
	NICKEL	UG/L	L 50	170	-	L 50	2700	710
	SILVER	UG/L	2	1	50	2	240	180

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/16
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/16 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ZINC	UG/L	150	200	-	150	17000	3900
NON-CONV. METALS	ALUMINUM	UG/L	3590	380	89	3480	NOT RUN	NOT RUN
	BARIUM	UG/L	82	26	68	77	NOT RUN	NOT RUN
	BORON	UG/L	74	73	1	57	NOT RUN	NOT RUN
	CALCIUM	MG/L	48	49	-	52	NOT RUN	NOT RUN
	COBALT	UG/L	5	6	-	6	NOT RUN	NOT RUN
	IRON	UG/L	2530	380	85	2100	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	9	-	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	310	250	19	350	NOT RUN	NOT RUN
	SODIUM	MG/L	147	194	-	156	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	61	-	L 50	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	9	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/16
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/17 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	280	29	90	290	14000	2700
	TOTAL SUSP. SOLIDS	MG/L	246	29	88	177	26600	6760
	COD	MG/L	600	110	82	590	34000	7200
	OIL & GREASE	MG/L	45	3	93	40	5350	570
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	900	53	94	800	1150	100
	TOTAL SOLIDS	MG/L	1340	811	39	1320	27700	7460
	TOTAL DISS. SOLIDS	MG/L	1090	782	28	1140	1090	696
	TOTAL VOLATILE SOLIDS	MG/L	374	141	62	337	12100	2630
	VOLATILE DISS. SOLIDS	MG/L	222	124	44	258	320	180
	TOTAL VOL. SUS. SOLIDS	MG/L	152	17	89	79	11880	2450
	AMMONIA NITROGEN	MG/L	10	8	20	10	19	17
	TOC	MG/L	260	41	84	240	4200	1600
VOLATILES	BENZENE	UG/L	20	4	80	18	20	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	N-D	4	N-D
	1,1,1-TRICHLOROETHANE	UG/L	7	N-D	99+	112	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	N-D	9	N-D
	1,1,2,2-TETRACHLOROETHANE	UG/L	N-D	N-D	-	N-D	10	N-D
	CHLOROFORM	UG/L	120	45	63	130	75	29
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	34	3	91	49	170	N-D
	METHYLENE CHLORIDE	UG/L	25	22	12	24	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	38	2	95	36	N-D	10
	TOLUENE	UG/L	500	55	89	400	650	N-D
	TRICHLOROETHYLENE	UG/L	10	N-D	99+	13	270	2
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	2	N-D	99+	1	N-D	N-D
	PHENOL	UG/L	260	8	97	210	460	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	1	N-D	99+	N-D	60	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	8	N-D	99+	7	480	40
	HEXACHLOROETHANE	UG/L	N-D	N-D	-	N-D	48	N-D
	1,3-DICHLOROBENZENE	UG/L	2	N-D	99+	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	6	N-D	99+	6	N-D	N-D
	2,6-DINITROTOLUENE	UG/L	N-D	N-D	-	N-D	60	N-D
	FLUORANTHENE	UG/L	N-D	5	-	N-D	140	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	20	N-D	99+	N-D	N-D	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	13	260	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	160	N-D	99+	5	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	N-D	N-D	-	1	N-D	N-D
	ACENAPHTHYLENE	UG/L	3	N-D	99+	N-D	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	N-D	220	N-D
	FLUORENE	UG/L	2	N-D	99+	N-D	80	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	N-D	160	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	120	N-D
PESTICIDES	ALPHA-BHC	NG/L	N-D	N-D	-	N-D	80	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	85	34

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/17 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	UG/L	L 10	L 10	-	L 10	2300	410
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	100	24
	CADMIUM	UG/L	5	L 5	-	L 5	280	60
	CHROMIUM	UG/L	140	25	82	110	18000	6000
	COPPER	UG/L	95	20	79	86	10000	1200
	CYANIDE	UG/L	334	35	90	140	2720	92
	LEAD	UG/L	92	L 50	46	89	8300	920
	MERCURY	NG/L	1000	L 300	70	1200	50000	L 8000
	NICKEL	UG/L	58	L 50	14	L 50	4700	800
	SELENIUM	UG/L	12	L 10	17	L 10	40	L 30
	SILVER	UG/L	10	1	90	8	990	200
	ZINC	UG/L	570	110	81	500	37000	4200
NON-CONV. METALS	ALUMINUM	UG/L	5860	460	92	5140	NOT RUN	NOT RUN
	BARIUM	UG/L	130	29	78	140	NOT RUN	NOT RUN
	BORON	UG/L	150	120	20	120	NOT RUN	NOT RUN
	CALCIUM	MG/L	50	47	6	47	NOT RUN	NOT RUN
	COBALT	UG/L	13	5	62	13	NOT RUN	NOT RUN
	IRON	UG/L	3510	420	88	3130	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	320	240	25	300	NOT RUN	NOT RUN
	SODIUM	MG/L	308	238	23	315	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	7	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/17
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/18 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	220	29	87	240	12000	4900
	TOTAL SUSP. SOLIDS	MG/L	162	26	84	161	29400	6990
	COD	MG/L	410	120	71	420	27000	8400
	OIL & GREASE	MG/L	18	L 2	89	23	2840	471
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	480	84	82	480	713	38
	TOTAL SOLIDS	MG/L	864	864	-	921	30500	7590
	TOTAL DISS. SOLIDS	MG/L	702	838	-	760	1120	600
	TOTAL VOLATILE SOLIDS	MG/L	265	119	55	206	17960	2620
	VOLATILE DISS. SOLIDS	MG/L	170	102	40	128	240	120
	TOTAL VOL. SUS. SOLIDS	MG/L	95	17	82	78	17700	2500
	AMMONIA NITROGEN	MG/L	6	5	17	5	7	5
	TOC	MG/L	180	51	72	190	4000	3200
VOLATILES	BENZENE	UG/L	27	4	85	28	N-D	12
	1,1,1-TRICHLOROETHANE	UG/L	240	54	77	N-D	2500	40
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	N-D	15	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	210	N-D	N-D
	CHLOROFORM	UG/L	46	62	-	51	90	17
	1,1-DICHLOROETHYLENE	UG/L	21	1	95	8	N-D	N-D
	ETHYLBENZENE	UG/L	21	10	52	57	N-D	6
	METHYLENE CHLORIDE	UG/L	55	40	27	73	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	23	6	74	35	50	N-D
	TOLUENE	UG/L	390	28	93	390	490	N-D
	TRICHLOROETHYLENE	UG/L	10	2	80	12	35	3
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	14	3	79	15	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	4-NITROPHENOL	UG/L	N-D	N-D	-	N-D	N-D	400
	PHENOL	UG/L	120	4	97	160	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	N-D	-	N-D	58	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	21	2	90	21	720	120
	1,3-DICHLOROBENZENE	UG/L	3	5	-	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	110	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	16	N-D	99+	N-D	N-D	N-D
	NAPHTHALENE	UG/L	17	N-D	99+	20	310	40
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	4	2	50	10	N-D	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	N-D	N-D	1000
	DI-N-BUTYL PHTHALATE	UG/L	N-D	2	-	N-D	N-D	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	70	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	200	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	110	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	29	26
	ARSENIC	UG/L	L 10	L 10	-	L 10	800	250
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	26	32
	CADMIUM	UG/L	5	L 5	-	5	210	80
	CHROMIUM	UG/L	56	28	50	79	6400	5500
	COPPER	UG/L	76	13	83	81	6500	1300

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/18
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/18 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CYANIDE	UG/L	41	44	-	17	660	30
	LEAD	UG/L	87	L 50	43	77	6600	1100
	MERCURY	MG/L	L 300	L 300	-	300	40000	L 8000
	NICKEL	UG/L	L 50	L 50	-	65	2700	930
	SILVER	UG/L	4	1	75	6	710	230
	ZINC	UG/L	290	130	55	330	25000	4700
NON-CONV. METALS	ALUMINUM	UG/L	3320	440	87	3830	NOT RUN	NOT RUN
	BARIUM	UG/L	85	26	69	97	NOT RUN	NOT RUN
	BORON	UG/L	79	100	-	85	NOT RUN	NOT RUN
	CALCIUM	MG/L	42	40	5	4	NOT RUN	NOT RUN
	COBALT	UG/L	21	8	62	20	NOT RUN	NOT RUN
	IRON	UG/L	3050	420	86	2980	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	6	7	-	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	220	200	9	240	NOT RUN	NOT RUN
	SODIUM	MG/L	159	256	-	183	NOT RUN	NOT RUN
	VANADIUM	UG/L	L 5	L 5	-	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	6	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/18
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/18 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	42	110	L 1
	TOTAL SUSP. SOLIDS	MG/L	446	324	L 2
	COD	MG/L	220	510	L 25
	OIL & GREASE	MG/L	8	21	4
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	275	560	L 5
	TOTAL SOLIDS	MG/L	1790	1480	125
	TOTAL DISS. SOLIDS	MG/L	1340	1160	125
	TOTAL VOLATILE SOLIDS	MG/L	224	400	50
	VOLATILE DISS. SOLIDS	MG/L	130	224	50
	TOTAL VOL. SUS. SOLIDS	MG/L	94	176	L 2
	AMMONIA NITROGEN	MG/L	60	44	L 1
	TOC	MG/L	125	190	4
VOLATILES	BENZENE	UG/L	2	9	2
	CHLOROBENZENE	UG/L	N-D	22	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	6	N-D
	CHLOROFORM	UG/L	N-D	N-D	42
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	7	N-D
	ETHYLBENZENE	UG/L	N-D	130	21
	METHYLENE CHLORIDE	UG/L	7	3	5
	DICHLOROBROMOMETHANE	UG/L	N-D	N-D	2
	TOLUENE	UG/L	3	100	6
ACID EXTRACT	PARACHLOROMETA CRESOL	UG/L	N-D	3	N-D
	2-CHLOROPHENOL	UG/L	4	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	1	N-D	N-D
	PHENOL	UG/L	7	9	N-D
BASE-NEUTRALS	1,3-DICHLOROBENZENE	UG/L	N-D	17	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	3	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	1	N-D	N-D
	NAPHTHALENE	UG/L	1	N-D	N-D
	NITROBENZENE	UG/L	N-D	26	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	5	N-D
	DI-N-BUTYL PHTHALATE	UG/L	N-D	2	2
	DIETHYL PHTHALATE	UG/L	2	N-D	N-D
	ANTHRACENE	UG/L	N-D	1	N-D
	PHENANTHRENE	UG/L	N-D	1	N-D
METALS	CADMIUM	UG/L	L 5	6	L 5
	CHROMIUM	UG/L	130	420	12
	COPPER	UG/L	57	270	L 10
	LEAD	UG/L	54	240	L 50
	MERCURY	NG/L	700	3100	L 300
	NICKEL	UG/L	L 50	140	L 50
	SILVER	UG/L	3	11	L 1
	ZINC	UG/L	250	910	13

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/18
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/18 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
NON-CONV. METALS	ALUMINUM	UG/L	4440	17600	55
	BARIUM	UG/L	170	410	21
	BORON	UG/L	180	120	L 20
	CALCIUM	MG/L	282	213	24
	COBALT	UG/L	16	35	L 5
	IRON	UG/L	5210	13300	180
	MAGNESIUM	MG/L	37	28	4
	MANGANESE	UG/L	2240	2190	L 10
	MOLYBDENUM	UG/L	L 10	14	L 10
	SODIUM	MG/L	252	177	8
	TITANIUM	UG/L	L 50	210	L 50
	VANADIUM	UG/L	7	19	L 5
	YTTRIUM	UG/L	30	120	L 5

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/19 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	150	14	91	110	12000	3000
	TOTAL SUSP. SOLIDS	MG/L	123	28	77	96	29500	6330
	COD	MG/L	250	91	64	340	22000	7200
	OIL & GREASE	MG/L	5	4	20	11	1230	1540
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	350	13	96	320	413	L 5
	TOTAL SOLIDS	MG/L	673	572	15	674	30300	6800
	TOTAL DISS. SOLIDS	MG/L	550	544	1	578	760	470
	TOTAL VOLATILE SOLIDS	MG/L	197	66	66	147	16700	4340
	VOLATILE DISS. SOLIDS	MG/L	126	45	64	98	220	70
	TOTAL VOL. SUS. SOLIDS	MG/L	71	21	70	49	16500	4270
	AMMONIA NITROGEN	MG/L	5	1	80	5	7	5
	TOC	MG/L	130	38	71	125	3100	1100
VOLATILES	BENZENE	UG/L	26	2	92	27	50	N-D
	1,1,1-TRICHLOROETHANE	UG/L	10	4	60	11	20	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	N-D	7	N-D
	1,1,2,2-TETRACHLOROETHANE	UG/L	8	N-D	99+	N-D	N-D	N-D
	CHLOROFORM	UG/L	43	31	28	48	60	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	18	N-D	99+	40	80	N-D
	METHYLENE CHLORIDE	UG/L	67	46	31	45	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	450	19	96	90	250	80
	TOLUENE	UG/L	350	3	99	380	690	N-D
	TRICHLOROETHYLENE	UG/L	78	N-D	99+	4	120	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	6	-	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	8	6	25	11	N-D	N-D
	2,4-DINITROPHENOL	UG/L	N-D	N-D	-	16	N-D	N-D
	PENTACHLOROPHENOL	UG/L	N-D	N-D	-	3	N-D	N-D
	PHENOL	UG/L	100	2	98	89	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	33	N-D	99+	41	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	5	N-D	99+	5	220	100
	1,3-DICHLOROBENZENE	UG/L	1	N-D	99+	4	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	3	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	80	N-D
	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	N-D	N-D	-	5	N-D	N-D
	NAPHTHALENE	UG/L	6	N-D	99+	N-D	80	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	3	220	-	4	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	1	N-D	99+	2	N-D	N-D
	DIETHYL PHTHALATE	UG/L	2	N-D	99+	N-D	N-D	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	80	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	60	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	54	34
	ARSENIC	UG/L	L 10	L 10	-	L 10	940	300
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	280	42
	CADMIUM	UG/L	L 5	L 5	-	L 5	190	70
	CHROMIUM	UG/L	58	75	-	100	10000	6000

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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/19 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	COPPER	UG/L	45	L 10	78	41	8100	1300
	CYANIDE	UG/L	17	17	-	26	1500	205
	LEAD	UG/L	84	L 50	40	53	7400	1200
	MERCURY	NG/L	L 300	L 300	-	L 300	26000	L 8000
	NICKEL	UG/L	200	95	52	180	9300	1300
	SILVER	UG/L	4	1	75	2	550	230
	ZINC	UG/L	250	95	62	210	31000	4900
NON-CONV. METALS	ALUMINUM	UG/L	4460	560	87	3970	NOT RUN	NOT RUN
	BARIUM	UG/L	72	28	61	67	NOT RUN	NOT RUN
	BORON	UG/L	56	61	-	120	NOT RUN	NOT RUN
	CALCIUM	MG/L	42	41	2	45	NOT RUN	NOT RUN
	COBALT	UG/L	17	14	18	14	NOT RUN	NOT RUN
	IRON	UG/L	2600	640	75	2040	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	6	6	-	6	NOT RUN	NOT RUN
	MANGANESE	UG/L	220	180	18	210	NOT RUN	NOT RUN
	SODIUM	MG/L	122	137	-	134	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	10	L 5	50	22	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/19
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/20 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	250	22	91	230	3510	2000
	TOTAL SUSP. SOLIDS	MG/L	178	96	46	149	27600	6230
	COD	MG/L	430	170	60	350	33000	6100
	OIL & GREASE	MG/L	6	3	50	10	1900	339
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	500	15	97	500	819	L 5
	TOTAL SOLIDS	MG/L	836	702	16	895	28700	6800
	TOTAL DISS. SOLIDS	MG/L	658	606	8	746	1090	570
	TOTAL VOLATILE SOLIDS	MG/L	254	148	42	238	16100	3030
	VOLATILE DISS. SOLIDS	MG/L	152	82	46	164	330	120
	TOTAL VOL. SUS. SOLIDS	MG/L	102	66	35	74	15800	2910
	AMMONIA NITROGEN	MG/L	5	3	40	6	9	9
	TOC	MG/L	165	58	65	155	10000	1100
VOLATILES	BENZENE	UG/L	9	3	67	10	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	6	N-D	99+	7	N-D	N-D
	CHLOROFORM	UG/L	59	34	42	67	38	25
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	59	4	93	41	40	N-D
	METHYLENE CHLORIDE	UG/L	90	41	54	460	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	114	21	82	32	N-D	30
	TOLUENE	UG/L	75	3	96	78	50	N-D
	TRICHLOROETHYLENE	UG/L	3	N-D	99+	4	85	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	7	2	71	8	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	3	-	N-D	N-D	N-D
	PHENOL	UG/L	91	4	96	69	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	11	7	36	21	280	97
	1,2-DICHLOROBENZENE	UG/L	N-D	25	-	N-D	480	60
	1,3-DICHLOROBENZENE	UG/L	2	N-D	99+	4	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	23	N-D	99+	41	60	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	1	N-D	N-D
	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	N-D	N-D	-	2	N-D	N-D
	NAPHTHALENE	UG/L	1	N-D	99+	23	200	N-D
	N-NITROSODIPHENYLAMINE	UG/L	N-D	N-D	-	7	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	2	6	-	7	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	2	10	-	10	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	39	-	68	N-D	N-D
	DIETHYL PHTHALATE	UG/L	N-D	4	-	10	N-D	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	2	N-D	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	2	72	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	110	26
	ARSENIC	UG/L	L 10	L 10	-	L 10	1800	300
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	44	42
	CADMIUM	UG/L	L 5	L 5	-	L 5	340	60
	CHROMIUM	UG/L	61	66	-	48	8300	5000
	COPPER	UG/L	48	17	65	36	7000	7000
	CYANIDE	UG/L	111	25	77	56	558	88

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/20
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/20 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	LEAD	UG/L	L 50	L 50	-	L 50	4500	770
	MERCURY	NG/L	L 300	L 300	-	L 300	16000	L 8000
	NICKEL	UG/L	120	58	52	88	17000	1200
	SILVER	UG/L	4	2	50	6	400	230
	ZINC	UG/L	220	150	32	180	26000	4400
NON-CONV. METALS	ALUMINUM	UG/L	4710	1920	59	3900	NOT RUN	NOT RUN
	BARIUM	UG/L	77	54	30	75	NOT RUN	NOT RUN
	BORON	UG/L	130	100	23	150	NOT RUN	NOT RUN
	CALCIUM	MG/L	43	44	-	46	NOT RUN	NOT RUN
	COBALT	UG/L	16	14	13	6	NOT RUN	NOT RUN
	IRON	UG/L	3390	1420	58	2960	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	7	6	14	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	250	210	16	230	NOT RUN	NOT RUN
	SODIUM	MG/L	144	150	-	155	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	L 5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/20
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/21 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	210	22	90	180	5600	1472
	TOTAL SUSP. SOLIDS	MG/L	163	28	83	104	21600	6000
	COD	MG/L	350	97	72	360	21000	6900
	OIL & GREASE	MG/L	14	L 2	86	11	1810	303
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	600	23	96	750	1000	63
	TOTAL SOLIDS	MG/L	831	704	15	822	22500	6530
	TOTAL DISS. SOLIDS	MG/L	668	676	-	718	900	530
	TOTAL VOLATILE SOLIDS	MG/L	247	118	52	201	11800	4050
	VOLATILE DISS. SOLIDS	MG/L	144	96	33	132	260	120
	TOTAL VOL. SUS. SOLIDS	MG/L	103	22	79	69	11500	3930
	AMMONIA NITROGEN	MG/L	8	5	38	9	21	11
	TOC	MG/L	155	41	74	165	6300	940
VOLATILES	BENZENE	UG/L	12	3	75	15	8	N-D
	1,1,1-TRICHLOROETHANE	UG/L	6	N-D	99+	18	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	N-D	5	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	15	N-D
	CHLOROFORM	UG/L	50	29	42	56	55	20
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	N-D	99+	2	8	N-D
	ETHYLBENZENE	UG/L	11	N-D	99+	12	15	N-D
	METHYLENE CHLORIDE	UG/L	120	60	50	200	10	N-D
	TETRACHLOROETHYLENE	UG/L	40	7	82	56	34	13
	TOLUENE	UG/L	79	3	96	100	85	N-D
	TRICHLOROETHYLENE	UG/L	5	N-D	99+	6	15	N-D
	VINYL CHLORIDE	UG/L	N-D	N-D	-	N-D	5	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	4	1	75	4	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	PHENOL	UG/L	77	15	81	110	300	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	40	16	60	37	180	120
	1,3-DICHLOROBENZENE	UG/L	4	3	25	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	3	N-D	N-D
	NAPHTHALENE	UG/L	24	N-D	99+	N-D	60	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	5	1	80	3	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	16	4	75	10	N-D	N-D
	DIETHYL PHTHALATE	UG/L	16	6	63	18	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	2	N-D	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	2	N-D	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	25	43
	ARSENIC	UG/L	L 10	L 10	-	L 10	1100	210
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	28	33
	CADMIUM	UG/L	L 5	L 5	-	L 5	180	70
	CHROMIUM	UG/L	120	23	81	110	5900	5100
	COPPER	UG/L	63	L 10	84	42	4100	1200
	CYANIDE	UG/L	207	103	50	344	278	173
	LEAD	UG/L	L 50	L 50	-	64	2600	1000
	MERCURY	NG/L	400	L 300	25	L 300	36000	L 8000

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/21
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/21 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	NICKEL	UG/L	67	L 50	25	78	10000	1300
	SILVER	UG/L	4	1	75	4	330	240
	ZINC	UG/L	250	120	52	200	16000	4200
NON-CONV. METALS	ALUMINUM	UG/L	4100	540	87	2460	NOT RUN	NOT RUN
	BARIUM	UG/L	100	33	67	91	NOT RUN	NOT RUN
	BORON	UG/L	130	98	25	120	NOT RUN	NOT RUN
	CALCIUM	MG/L	45	46	-	49	NOT RUN	NOT RUN
	COBALT	UG/L	19	16	16	23	NOT RUN	NOT RUN
	IRON	UG/L	3120	420	87	1840	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	6	6	-	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	270	200	26	240	NOT RUN	NOT RUN
	SODIUM	MG/L	161	175	-	164	NOT RUN	NOT RUN
	YTTRIUM	UG/L	20	L 5	75	17	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/21
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/22 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	190	13	93	150	7800	2800
	TOTAL SUSP. SOLIDS	MG/L	215	21	90	80	15600	4810
	COD	MG/L	310	50	84	260	19000	4500
	OIL & GREASE	MG/L	13	5	62	10	1800	235
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	870	13	99	870	1150	38
	TOTAL SOLIDS	MG/L	689	477	31	516	16500	5290
	TOTAL DISS. SOLIDS	MG/L	474	456	4	436	850	480
	TOTAL VOLATILE SOLIDS	MG/L	313	104	67	160	10800	3330
	VOLATILE DISS. SOLIDS	MG/L	160	88	45	106	290	120
	TOTAL VOL. SUS. SOLIDS	MG/L	153	16	90	54	10500	3210
	AMMONIA NITROGEN	MG/L	10	9	10	10	27	37
	TOC	MG/L	155	27	83	115	4400	2300
VOLATILES	BENZENE	UG/L	14	1	93	16	18	N-D
	1,1,1-TRICHLOROETHANE	UG/L	7	N-D	99+	9	N-D	N-D
	CHLOROFORM	UG/L	59	28	53	63	29	18
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	N-D	99+	1	N-D	N-D
	ETHYLBENZENE	UG/L	11	N-D	99+	15	38	N-D
	METHYLENE CHLORIDE	UG/L	110	50	55	N-D	150	N-D
	METHYL CHLORIDE	UG/L	N-D	N-D	-	73	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	11	2	82	18	7	N-D
	TOLUENE	UG/L	100	4	96	130	120	N-D
	TRICHLOROETHYLENE	UG/L	6	N-D	99+	6	8	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	3	1	67	3	N-D	N-D
	PHENOL	UG/L	150	2	99	190	470	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	8	760	60
	1,3-DICHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	66	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	4	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	160	N-D
	NAPHTHALENE	UG/L	13	N-D	99+	26	220	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	1	N-D	99+	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	5	N-D	99+	N-D	N-D	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	60	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	140	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	120	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	29	29
	ARSENIC	UG/L	L 10	L 10	-	L 10	1200	170
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	26	22
	CADMIUM	UG/L	L 5	L 5	-	L 5	120	50
	CHROMIUM	UG/L	96	24	75	39	8100	4100
	COPPER	UG/L	54	L 10	81	21	4600	1000
	CYANIDE	UG/L	15	62	-	22	519	241
	LEAD	UG/L	L 50	L 50	-	L 50	3300	690
	MERCURY	NG/L	500	L 300	40	L 300	50000	10000
	NICKEL	UG/L	L 50	L 50	-	L 50	4500	1100

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/22
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/22 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	UG/L	6	1	83	3	520	220
	ZINC	UG/L	220	110	50	150	18000	3300
NON-CONV. METALS	ALUMINUM	UG/L	3080	360	88	1580	NOT RUN	NOT RUN
	BARIUM	UG/L	100	31	69	73	NOT RUN	NOT RUN
	BORON	UG/L	130	88	32	79	NOT RUN	NOT RUN
	CALCIUM	MG/L	49	49	-	51	NOT RUN	NOT RUN
	COBALT	UG/L	14	10	29	10	NOT RUN	NOT RUN
	IRON	UG/L	2780	320	88	1470	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	6	6	-	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	320	230	28	300	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	L 10	L 10	-	10	NOT RUN	NOT RUN
	SODIUM	MG/L	68	106	-	84	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	7	L 5	29	L 5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/22
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/23 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	190	10	95	160	5200	2169
	TOTAL SUSP. SOLIDS	MG/L	103	18	83	72	10700	4230
	COD	MG/L	200	46	77	200	17000	5200
	OIL & GREASE	MG/L	15	13	13	9	4870	121
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	550	8	99	620	900	38
	TOTAL SOLIDS	MG/L	589	414	30	550	11300	4630
	TOTAL DISS. SOLIDS	MG/L	486	396	19	478	610	400
	TOTAL VOLATILE SOLIDS	MG/L	176	94	47	196	7700	2570
	VOLATILE DISS. SOLIDS	MG/L	110	78	29	146	300	100
	TOTAL VOL. SUS. SOLIDS	MG/L	66	16	76	50	7400	2470
	AMMONIA NITROGEN	MG/L	17	15	12	15	25	23
	TOC	MG/L	130	31	76	115	3100	3900
VOLATILES	BENZENE	UG/L	13	1	92	16	18	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	N-D	4	-	7	N-D	N-D
	CHLOROFORM	UG/L	27	18	33	37	20	15
	1,2-TRANS-DICHLOROETHYLENE	UG/L	1	N-D	99+	1	N-D	N-D
	ETHYLBENZENE	UG/L	21	N-D	99+	22	40	N-D
	METHYLENE CHLORIDE	UG/L	21	14	33	120	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	12	1	92	11	13	N-D
	TOLUENE	UG/L	140	5	96	180	230	N-D
	TRICHLOROETHYLENE	UG/L	10	6	40	9	20	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	N-D	1	-	3	N-D	N-D
	PENTACHLOROPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	PHENOL	UG/L	220	1	99+	160	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	N-D	-	3	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	2	160	N-D
	HEXACHLOROBENZENE	UG/L	N-D	N-D	-	1	N-D	N-D
	2-CHLORONAPHTHALENE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	60	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	N-D	N-D	-	3	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	3	120	80
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	8	N-D	99+	10	N-D	N-D
	NAPHTHALENE	UG/L	10	N-D	99+	14	260	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	12	18	-	34	N-D	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	7	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	N-D	7	-	6	N-D	N-D
	DIETHYL PHTHALATE	UG/L	N-D	N-D	-	3	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	N-D	60
	CHRYSENE	UG/L	N-D	N-D	-	2	N-D	60
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	N-D	7	60
	ANTHRACENE	UG/L	N-D	N-D	-	3	N-D	N-D
	FLUORENE	UG/L	N-D	N-D	-	3	60	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	100	N-D
	PYRENE	UG/L	N-D	N-D	-	3	100	80

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/23 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	UG/L	L 10	L 10	-	L 10	120	74
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	23	8
	CADMIUM	UG/L	L 5	L 5	-	L 5	22	80
	CHROMIUM	UG/L	26	L 10	62	27	1600	3500
	COPPER	UG/L	26	L 10	62	15	1200	840
	CYANIDE	UG/L	12	12	-	15	185	136
	LEAD	UG/L	L 50	L 50	-	57	530	440
	MERCURY	NG/L	400	L 300	25	L 300	30000	L 10000
	NICKEL	UG/L	L 50	L 50	-	L 50	890	1100
	SILVER	UG/L	2	L 1	50	1	110	130
	ZINC	UG/L	220	52	76	110	480	3100
NON-CONV. METALS	ALUMINUM	UG/L	2970	270	91	1820	NOT RUN	NOT RUN
	BARIUM	UG/L	65	30	54	60	NOT RUN	NOT RUN
	BORON	UG/L	89	76	15	52	NOT RUN	NOT RUN
	CALCIUM	MG/L	51	50	2	54	NOT RUN	NOT RUN
	COBALT	UG/L	8	10	-	10	NOT RUN	NOT RUN
	IRON	UG/L	1720	240	86	1080	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	7	6	14	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	310	260	16	310	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	63	L 10	84	54	NOT RUN	NOT RUN
	SODIUM	MG/L	100	74	26	99	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/23
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/24 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	330	30	91	270	16000	3000
	TOTAL SUSP. SOLIDS	MG/L	256	23	91	149	20300	4810
	COD	MG/L	700	110	84	600	24000	6300
	OIL & GREASE	MG/L	20	L 2	90	19	1130	290
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	320	35	89	320	900	88
	TOTAL SOLIDS	MG/L	1370	843	38	1280	21700	5730
	TOTAL DISS. SOLIDS	MG/L	1110	820	26	1130	1370	920
	TOTAL VOLATILE SOLIDS	MG/L	329	82	75	280	11800	3430
	VOLATILE DISS. SOLIDS	MG/L	174	70	60	194	350	120
	TOTAL VOL. SUS. SOLIDS	MG/L	155	12	92	86	11400	3310
	AMMONIA NITROGEN	MG/L	15	16	-	16	34	20
	TOC	MG/L	280	48	83	248	6900	1800
VOLATILES	BENZENE	UG/L	12	3	75	9	13	N-D
	1,1,1-TRICHLOROETHANE	UG/L	16	3	81	8	10	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	8	N-D
	CHLOROFORM	UG/L	80	29	64	58	90	N-D
	ETHYLBENZENE	UG/L	5	1	80	27	65	N-D
	METHYLENE CHLORIDE	UG/L	36	71	-	150	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	49	7	86	42	110	N-D
	TOLUENE	UG/L	230	11	95	180	300	N-D
	TRICHLOROETHYLENE	UG/L	250	5	98	16	23	N-D
ACID EXTRACT	2,4-DINITROPHENOL	UG/L	4	N-D	99+	3	N-D	N-D
	PHENOL	UG/L	180	8	96	N-D	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	295	N-D	99+	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	45	7	84	18	1400	64
	BIS(2-CHLOROETHYL) ETHER	UG/L	N-D	N-D	-	1	N-D	N-D
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	100	N-D
	1,3-DICHLOROBENZENE	UG/L	4	2	50	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	8	N-D	99+	2	260	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	360	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	N-D	N-D	-	27	N-D	N-D
	NAPHTHALENE	UG/L	20	N-D	99+	N-D	460	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	4	N-D	99+	6	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	4	N-D	99+	1	N-D	N-D
	DIETHYL PHTHALATE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	80	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	60	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	80	N-D
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	3	N-D	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	200	N-D
	FLUORENE	UG/L	2	N-D	99+	1	80	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	280	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	300	N-D
METALS	ANTIMONY	UG/L	11	5	55	11	110	L 30
	ARSENIC	UG/L	L 10	19	-	L 10	2300	100

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/24
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/24 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	33	15
	CADMIUM	UG/L	5	L 5	-	L 5	90	90
	CHROMIUM	UG/L	230	30	87	220	9100	4900
	COPPER	UG/L	130	26	80	96	1400	1300
	CYANIDE	UG/L	90	40	56	127	1000	297
	LEAD	UG/L	L 50	50	-	L 50	880	610
	MERCURY	NG/L	300	L 300	-	300	40000	L 10000
	NICKEL	UG/L	91	70	23	76	670	970
	SELENIUM	UG/L	L 10	L 10	-	L 10	60	L 40
	SILVER	UG/L	6	1	83	7	250	210
	ZINC	UG/L	560	110	80	390	4500	4400
NON-CONV. METALS	ALUMINUM	UG/L	6050	460	92	5230	NOT RUN	NOT RUN
	BARIUM	UG/L	140	30	79	110	NOT RUN	NOT RUN
	BORON	UG/L	140	85	39	130	NOT RUN	NOT RUN
	CALCIUM	MG/L	53	50	6	54	NOT RUN	NOT RUN
	COBALT	UG/L	23	17	26	25	NOT RUN	NOT RUN
	IRON	UG/L	2700	330	88	2210	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	340	220	35	310	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	39	62	-	51	NOT RUN	NOT RUN
	SODIUM	MG/L	323	236	27	313	NOT RUN	NOT RUN
	TITANIUM	UG/L	66	L 5	92	31	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	10	L 5	50	10	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/24
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/24 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	110	250	L 1
	TOTAL SUSP. SOLIDS	MG/L	275	949	2
	COD	MG/L	310	1100	L 25
	OIL & GREASE	MG/L	5	120	L 2
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	240	560	L 5
	TOTAL SOLIDS	MG/L	1520	2280	82
	TOTAL DISS. SOLIDS	MG/L	1240	1330	80
	TOTAL VOLATILE SOLIDS	MG/L	170	728	58
	VOLATILE DISS. SOLIDS	MG/L	140	296	58
	TOTAL VOL. SUS. SOLIDS	MG/L	30	432	L 2
	AMMONIA NITROGEN	MG/L	50	130	L 1
	TOC	MG/L	95	435	4
VOLATILES	BENZENE	UG/L	3	9	3
	CHLOROBENZENE	UG/L	N-D	28	N-D
	CHLOROFORM	UG/L	N-D	N-D	23
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	21	N-D
	ETHYLBENZENE	UG/L	3	220	N-D
	METHYLENE CHLORIDE	UG/L	10	9	6
	TOLUENE	UG/L	5	120	4
ACID EXTRACT	PHENOL	UG/L	9	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	5	N-D
	1,3-DICHLOROBENZENE	UG/L	N-D	27	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	3	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	3	3	N-D
	NAPHTHALENE	UG/L	N-D	28	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	4	84	5
	DI-N-BUTYL PHTHALATE	UG/L	N-D	7	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	5	N-D
	DIETHYL PHTHALATE	UG/L	3	15	N-D
	ACENAPHTHYLENE	UG/L	27	N-D	N-D
	ANTHRACENE	UG/L	N-D	8	N-D
	1,12-BENZOPERYLENE	UG/L	N-D	6	N-D
	PHENANTHRENE	UG/L	N-D	3	N-D
	1,2:5,6-DIBENZANTHRACENE	UG/L	N-D	6	N-D
METALS	ARSENIC	UG/L	L 10	32	L 10
	BERYLLIUM	UG/L	L 1	1	L 1
	CADMIUM	UG/L	L 5	10	L 5
	CHROMIUM	UG/L	36	450	L 10
	COPPER	UG/L	45	280	24
	CYANIDE	UG/L	L 10	31	L 10
	LEAD	UG/L	L 50	260	L 50
	MERCURY	NG/L	L 300	400	L 300
	NICKEL	UG/L	50	270	L 50
	SILVER	UG/L	1	32	L 1

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/24
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/02/24 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
METALS	ZINC	UG/L	100	1080	32
NON-CONV. METALS	ALUMINUM	UG/L	1750	22100	L 40
	BARIUM	UG/L	130	480	22
	BORON	UG/L	170	180	L 20
	CALCIUM	MG/L	270	301	22
	COBALT	UG/L	11	41	5
	IRON	UG/L	4420	15800	120
	MAGNESIUM	MG/L	36	39	4
	MANGANESE	UG/L	2510	3430	L 10
	MOLYBDENUM	UG/L	L 10	18	L 10
	SODIUM	MG/L	226	238	10
	TITANIUM	UG/L	21	77	L 5
	VANADIUM	UG/L	L 5	20	L 5
	YTTRIUM	UG/L	8	140	L 5

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/24
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/25 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	350	56	84	330	8600	2500
	TOTAL SUSP. SOLIDS	MG/L	213	40	81	173	25200	3880
	COD	MG/L	690	180	74	700	51000	6300
	OIL & GREASE	MG/L	24	5	79	21	2140	350
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	750	65	91	870	438	150
	TOTAL SOLIDS	MG/L	1190	1020	14	1160	26700	4940
	TOTAL DISS. SOLIDS	MG/L	980	978	-	990	1530	1060
	TOTAL VOLATILE SOLIDS	MG/L	343	100	71	276	17100	2940
	VOLATILE DISS. SOLIDS	MG/L	220	68	69	164	380	200
	TOTAL VOL. SUS. SOLIDS	MG/L	123	32	74	112	16700	2740
	AMMONIA NITROGEN	MG/L	17	12	29	18	7	16
	TOC	MG/L	275	79	71	250	10000	2700
VOLATILES	BENZENE	UG/L	60	5	92	10	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	8	N-D	99+	5	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	190	9
	CHLOROETHANE	UG/L	N-D	N-D	-	N-D	N-D	20
	CHLOROFORM	UG/L	90	32	64	53	50	14
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	63	6	90	N-D	43	10
	METHYLENE CHLORIDE	UG/L	15	27	-	31	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	65	9	86	61	N-D	11
	TOLUENE	UG/L	260	26	90	N-D	N-D	28
	TRICHLOROETHYLENE	UG/L	37	58	-	42	270	15
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	N-D	-	1	N-D	N-D
	2,4-DINITROPHENOL	UG/L	3	N-D	99+	3	N-D	N-D
	PENTACHLOROPHENOL	UG/L	6	N-D	99+	2	N-D	N-D
	PHENOL	UG/L	110	5	95	130	290	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	220	N-D	99+	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	46	14	70	21	1200	120
	1,3-DICHLOROBENZENE	UG/L	2	2	-	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	5	N-D	99+	2	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	70	N-D
	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	N-D	N-D	-	1	N-D	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	33	4	88	20	N-D	N-D
	NAPHTHALENE	UG/L	26	N-D	99+	18	220	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	4	N-D	99+	6	120	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	N-D	76	N-D
	DI-N-BUTYL PHTHALATE	UG/L	8	N-D	99+	3	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	N-D	-	5	N-D	N-D
	DIETHYL PHTHALATE	UG/L	17	27	-	13	N-D	N-D
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	2	N-D	N-D
	FLUORENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	80	N-D
METALS	ANTIMONY	UG/L	11	6	45	12	L 30	L 30
	ARSENIC	UG/L	L 10	L 10	-	L 10	430	76

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/25
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/25 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	17	2
	CADMIUM	UG/L	7	L 5	29	6	80	50
	CHROMIUM	UG/L	110	29	74	120	6600	1600
	COPPER	UG/L	100	29	71	92	1400	150
	CYANIDE	UG/L	75	34	55	94	3600	199
	LEAD	UG/L	50	L 50	-	66	960	L 20
	MERCURY	NG/L	L 300	L 300	-	400	30000	L 6000
	NICKEL	UG/L	59	59	-	81	670	580
	SILVER	UG/L	6	1	83	6	150	19
	ZINC	UG/L	370	180	51	360	7100	310
NON-CONV. METALS	ALUMINUM	UG/L	3840	560	85	3600	NOT RUN	NOT RUN
	BARIUM	UG/L	110	36	67	130	NOT RUN	NOT RUN
	BORON	UG/L	150	96	36	170	NOT RUN	NOT RUN
	CALCIUM	MG/L	52	51	2	54	NOT RUN	NOT RUN
	COBALT	UG/L	24	21	13	27	NOT RUN	NOT RUN
	IRON	UG/L	2120	530	75	2030	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	290	240	17	290	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	21	19	10	22	NOT RUN	NOT RUN
	SODIUM	MG/L	263	306	-	292	NOT RUN	NOT RUN
	TITANIUM	UG/L	23	L 5	78	29	NOT RUN	NOT RUN
	VANADIUM	UG/L	6	L 5	17	6	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	5	NOT RUN	NOT RUN

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/26 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	340	I 0	99+	I 0	19000	4400
	TOTAL SUSP. SOLIDS	MG/L	217	109	50	36	17407	5260
	COD	MG/L	740	220	70	350	47000	7400
	OIL & GREASE	MG/L	32	L 2	94	25	2470	381
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	870	125	86	1000	1750	225
	TOTAL SOLIDS	MG/L	1290	1140	12	944	18900	6170
	TOTAL DISS. SOLIDS	MG/L	1070	1030	4	908	1470	910
	TOTAL VOLATILE SOLIDS	MG/L	291	223	23	62	11100	3900
	VOLATILE DISS. SOLIDS	MG/L	162	168	-	36	340	160
	TOTAL VOL. SUS. SOLIDS	MG/L	129	55	57	26	10800	3740
	AMMONIA NITROGEN	MG/L	21	13	38	16	33	16
	TOC	MG/L	225	161	28	90	13000	10000
VOLATILES	BENZENE	UG/L	11	4	64	12	7	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	110	N-D
	CHLOROFORM	UG/L	85	28	67	94	45	25
	ETHYLBENZENE	UG/L	23	4	83	20	55	9
	METHYLENE CHLORIDE	UG/L	21	26	-	30	15	N-D
	TETRACHLOROETHYLENE	UG/L	32	3	91	45	200	10
	TOLUENE	UG/L	120	22	82	140	230	34
	TRICHLOROETHYLENE	UG/L	48	11	77	48	140	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	2-CHLOROPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	14	-	N-D	N-D	N-D
	2-NITROPHENOL	UG/L	N-D	3	-	N-D	N-D	N-D
	PHENOL	UG/L	190	68	64	N-D	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	91	48	47	27	1200	72
	1,3-DICHLOROBENZENE	UG/L	6	N-D	99+	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	15	8	47	5	72	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	270	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	14	N-D	99+	N-D	180	N-D
	DI-N-BUTYL PHTHALATE	UG/L	12	N-D	99+	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	7	7	-	8	N-D	N-D
	ACENAPHTHYLENE	UG/L	N-D	2	-	N-D	N-D	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	110	N-D
METALS	ARSENIC	UG/L	L 10	L 10	-	L 10	130	130
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	85	10
	CADMIUM	UG/L	L 5	L 5	-	L 5	300	80
	CHROMIUM	UG/L	70	44	37	22	37000	3100
	COPPER	UG/L	83	42	49	14	19000	810
	CYANIDE	UG/L	75	31	59	63	1260	225
	LEAD	UG/L	64	L 50	22	L 50	5800	440
	MERCURY	NG/L	600	L 300	50	L 300	30000	L 6000
	NICKEL	UG/L	84	60	29	62	11000	670

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/26
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/26 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	UG/L	8	5	38	1	490	150
	ZINC	UG/L	280	200	29	120	90000	3800
NON-CONV. METALS	ALUMINUM	UG/L	5300	2810	47	420	NOT RUN	NOT RUN
	BARIUM	UG/L	140	82	41	31	NOT RUN	NOT RUN
	BORON	UG/L	160	130	19	100	NOT RUN	NOT RUN
	CALCIUM	MG/L	51	51	-	47	NOT RUN	NOT RUN
	COBALT	UG/L	11	14	-	19	NOT RUN	NOT RUN
	IRON	UG/L	3120	1540	51	480	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	260	13	220	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	15	13	13	L 10	NOT RUN	NOT RUN
	SODIUM	MG/L	330	289	12	270	NOT RUN	NOT RUN
	TITANIUM	UG/L	25	18	28	L 5	NOT RUN	NOT RUN
	VANADIUM	UG/L	9	L 5	44	L 5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/26
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/27 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	410	74	82	440	8100	3100
	TOTAL SUSP. SOLIDS	MG/L	258	50	81	219	12700	6400
	COD	MG/L	810	210	74	740	65000	10000
	OIL & GREASE	MG/L	41	5	88	10	3450	511
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	800	135	83	670	1600	263
	TOTAL SOLIDS	MG/L	1420	1140	20	1470	14300	7450
	TOTAL DISS. SOLIDS	MG/L	1160	1090	6	1250	1550	1050
	TOTAL VOLATILE SOLIDS	MG/L	469	337	28	464	8180	5060
	VOLATILE DISS. SOLIDS	MG/L	286	298	-	320	420	190
	TOTAL VOL. SUS. SOLIDS	MG/L	183	39	79	144	7760	4870
	AMMONIA NITROGEN	MG/L	16	10	38	16	37	17
	TOC	MG/L	368	98	73	290	10000	2000
VOLATILES	BENZENE	UG/L	16	3	81	12	14	N-D
	CHLOROBENZENE	UG/L	8	N-D	99+	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	11	1	91	33	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	3	N-D	99+	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	2	N-D	99+	N-D	30	N-D
	1,1,2,2-TETRACHLOROETHANE	UG/L	5	N-D	99+	N-D	N-D	N-D
	CHLOROFORM	UG/L	150	46	69	110	100	29
	1,2-TRANS-DICHLOROETHYLENE	UG/L	3	N-D	99+	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	29	4	86	23	54	10
	METHYLENE CHLORIDE	UG/L	45	75	-	77	N-D	N-D
	CHLORODIBROMOMETHANE	UG/L	1	N-D	99+	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	40	2	95	25	50	7
	TOLUENE	UG/L	260	35	87	170	350	50
	TRICHLOROETHYLENE	UG/L	17	1	94	43	65	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	1	-	2	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	N-D	3	-	4	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	N-D	-	17	N-D	N-D
	PHENOL	UG/L	86	6	93	120	400	N-D
BASE NEUTRALS	ACENAPHTHENE	UG/L	N-D	43	-	N-D	54	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	52	14	73	64	1800	230
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	140	N-D
	1,3-DICHLOROBENZENE	UG/L	4	5	-	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	19	N-D	99+	17	86	N-D
	FLUORANTHENE	UG/L	11	N-D	99+	8	150	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	560	80
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	N-D	8	-	55	14000	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	N-D	56	N-D
	DI-N-BUTYL PHTHALATE	UG/L	67	6	91	11	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	N-D	-	6	N-D	N-D
	DIETHYL PHTHALATE	UG/L	18	37	-	49	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	59	N-D	99+	N-D	N-D	N-D
	ANTHRACENE	UG/L	6	N-D	99+	6	54	N-D
	FLUORENE	UG/L	4	N-D	99+	5	60	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/27
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/27 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PHENANTHRENE	UG/L	6	N-D	99+	6	130	N-D
	PYRENE	UG/L	9	N-D	99+	8	120	N-D
METALS	ARSENIC	UG/L	L 10	L 10	-	L 10	510	450
	BERYLLIUM	UG/L	2	L 1	50	L 1	42	12
	CADMIUM	UG/L	L 5	L 5	-	5	130	80
	CHROMIUM	UG/L	180	19	89	130	6600	3900
	COPPER	UG/L	88	L 10	89	80	3800	1200
	CYANIDE	UG/L	63	83	-	65	1080	321
	LEAD	UG/L	L 50	L 50	-	L 50	2900	790
	MERCURY	NG/L	400	L 300	25	400	31000	L 8000
	NICKEL	UG/L	86	67	22	76	1800	790
	SILVER	UG/L	7	1	86	6	490	230
	ZINC	UG/L	260	98	62	250	13000	4000
NON-CONV. METALS	ALUMINUM	UG/L	6410	490	92	5860	NOT RUN	NOT RUN
	BARIUM	UG/L	140	32	77	130	NOT RUN	NOT RUN
	BORON	UG/L	170	120	29	160	NOT RUN	NOT RUN
	CALCIUM	MG/L	50	47	6	53	NOT RUN	NOT RUN
	COBALT	UG/L	13	18	-	15	NOT RUN	NOT RUN
	IRON	UG/L	2360	540	77	2530	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	270	200	26	290	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	L 10	10	-	12	NOT RUN	NOT RUN
	SODIUM	MG/L	303	316	-	347	NOT RUN	NOT RUN
	TITANIUM	UG/L	28	L 5	82	30	NOT RUN	NOT RUN
	VANADIUM	UG/L	5	L 5	-	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	62	L 5	92	31	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/02/27
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 01/02/28 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	270	7	97	260	4200	1500
	TOTAL SUSP. SOLIDS	MG/L	270	48	82	162	30500	8200
	COD	MG/L	690	160	77	570	38000	12000
	OIL & GREASE	MG/L	23	5	78	16	3940	453
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	750	130	83	700	1400	238
	TOTAL SOLIDS	MG/L	1220	1620	-	1140	32000	9270
	TOTAL DISS. SOLIDS	MG/L	946	1570	-	976	1450	1090
	TOTAL VOLATILE SOLIDS	MG/L	396	445	-	313	18000	6640
	VOLATILE DISS. SOLIDS	MG/L	238	408	-	218	370	260
	TOTAL VOL. SUS. SOLIDS	MG/L	158	37	77	95	17600	6380
	AMMONIA NITROGEN	MG/L	19	11	42	21	37	17
	TOC	MG/L	245	71	71	215	7200	2100
VOLATILES	BENZENE	UG/L	10	3	70	11	6	N-D
	1,1,1-TRICHLOROETHANE	UG/L	6	1	83	7	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	15	N-D
	CHLOROFORM	UG/L	95	36	62	83	95	23
	1,2-TRANS-DICHLOROETHYLENE	UG/L	4	N-D	99+	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	36	N-D	99+	35	60	7
	METHYLENE CHLORIDE	UG/L	3600	48	99	150	21	N-D
	TETRACHLOROETHYLENE	UG/L	35	2	94	33	75	N-D
	TOLUENE	UG/L	250	50	80	220	430	40
	TRICHLOROETHYLENE	UG/L	5	N-D	99+	9	19	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	18	8	56	N-D	N-D	N-D
	PHENOL	UG/L	110	9	92	230	310	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	1	-	130	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	57	15	74	39	840	150
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	170	N-D
	1,3-DICHLOROBENZENE	UG/L	8	2	75	7	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	35	11	69	32	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	N-D	N-D	-	1	N-D	N-D
	FLUORANTHENE	UG/L	1	N-D	99+	6	130	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	550	86
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	36	5	86	26	4800	5400
	DI-N-BUTYL PHTHALATE	UG/L	9	19	-	15	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	7	N-D	99+	N-D	160	N-D
	DIETHYL PHTHALATE	UG/L	19	14	26	22	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	17	13	24	22	N-D	N-D
	CHRYSENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	ANTHRACENE	UG/L	5	N-D	99+	5	N-D	N-D
	FLUORENE	UG/L	12	1	92	5	N-D	N-D
	PHENANTHRENE	UG/L	5	N-D	99+	5	92	N-D
	PYRENE	UG/L	7	N-D	99+	5	110	N-D
METALS	ANTIMONY	UG/L	12	L 5	58	9	50	L 30
	ARSENIC	UG/L	13	L 10	23	L 10	1100	220

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 01/02/28
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/02/28 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	24	7
	CADMIUM	UG/L	L 5	L 5	-	L 5	90	60
	CHROMIUM	UG/L	430	21	95	340	7000	3700
	COPPER	UG/L	93	13	86	65	3200	990
	CYANIDE	UG/L	309	603	-	2890	1220	236
	LEAD	UG/L	L 50	57	-	60	2400	530
	MERCURY	NG/L	500	L 300	40	L 300	26000	L 6000
	NICKEL	UG/L	66	61	8	61	1700	760
	SILVER	UG/L	6	1	83	7	440	190
	ZINC	UG/L	320	78	76	220	13000	3600
NON-CONV. METALS	ALUMINUM	UG/L	9530	400	96	5760	NOT RUN	NOT RUN
	BARIUM	UG/L	150	24	84	97	NOT RUN	NOT RUN
	BORON	UG/L	170	96	44	150	NOT RUN	NOT RUN
	CALCIUM	MG/L	48	45	6	50	NOT RUN	NOT RUN
	COBALT	UG/L	18	11	39	18	NOT RUN	NOT RUN
	IRON	UG/L	3970	440	89	2150	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	330	190	42	280	NOT RUN	NOT RUN
	SODIUM	MG/L	265	293	-	279	NOT RUN	NOT RUN
	TITANIUM	UG/L	37	L 5	86	22	NOT RUN	NOT RUN
	VANADIUM	UG/L	7	L 5	29	5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	11	NOT RUN	NOT RUN

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/01 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	410	36	91	360	3000	5100
	TOTAL SUSP. SOLIDS	MG/L	344	25	93	210	28300	11300
	COD	MG/L	630	120	81	570	26000	13000
	OIL & GREASE	MG/L	13	9	31	45	1540	365
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	910	120	87	1150	1750	225
	TOTAL SOLIDS	MG/L	1360	975	28	1160	29800	12100
	TOTAL DISS. SOLIDS	MG/L	1010	950	6	950	1530	830
	TOTAL VOLATILE SOLIDS	MG/L	414	133	68	294	15800	9500
	VOLATILE DISS. SOLIDS	MG/L	202	114	44	178	380	140
	TOTAL VOL. SUS. SOLIDS	MG/L	212	19	91	116	15400	9360
	AMMONIA NITROGEN	MG/L	25	14	44	26	42	16
	TOC	MG/L	240	52	78	210	1600	700
VOLATILES	BENZENE	UG/L	12	2	83	15	N-D	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	4	N-D	99+	4	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	4	80	N-D
	CHLOROFORM	UG/L	N-D	22	-	76	66	N-D
	1,1-DICHLOROETHYLENE	UG/L	60	N-D	99+	N-D	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,2-DICHLOROPROPANE	UG/L	1	N-D	99+	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	N-D	4	-	24	50	N-D
	METHYLENE CHLORIDE	UG/L	12	48	-	140	32	N-D
	METHYL CHLORIDE	UG/L	350	N-D	99+	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	18	N-D	99+	24	48	N-D
	TOLUENE	UG/L	260	25	90	290	440	N-D
	TRICHLOROETHYLENE	UG/L	140	2	99	60	95	N-D
	VINYL CHLORIDE	UG/L	N-D	N-D	-	10	N-D	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	7	N-D	99+	3	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	7	12	-	N-D	N-D	N-D
	PHENOL	UG/L	N-D	N-D	-	280	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	N-D	-	N-D	54	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	28	29	-	12	660	120
	1,3-DICHLOROBENZENE	UG/L	3	11	-	3	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	12	N-D	99+	7	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	2	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	12	N-D	99+	3	120	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	320	60
	N-NITROSODI-N-PROPYLAMINE	UG/L	28	N-D	99+	5	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	46	8	83	26	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	25	N-D	99+	6	N-D	N-D
	DIETHYL PHTHALATE	UG/L	21	17	19	9	N-D	N-D
	CHRYSENE	UG/L	4	N-D	99+	N-D	N-D	N-D
	ANTHRACENE	UG/L	4	N-D	99+	2	N-D	N-D
	FLUORENE	UG/L	5	1	80	2	N-D	N-D
	PHENANTHRENE	UG/L	4	N-D	99+	2	75	N-D
	PYRENE	UG/L	11	N-D	99+	3	84	N-D

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 01/03/01 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ANTIMONY	UG/L	L 5	L 5	-	L 5	310	80
	ARSENIC	UG/L	14	L 10	29	L 10	1500	100
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	40	13
	CADMIUM	UG/L	L 5	L 5	-	L 5	160	70
	CHROMIUM	UG/L	48	L 10	79	63	19000	3500
	COPPER	UG/L	57	46	19	120	7100	1100
	CYANIDE	UG/L	33	170	-	55	1020	218
	LEAD	UG/L	61	L 50	18	L 50	4200	670
	MERCURY	MG/L	300	300	-	300	22000	L 6000
	NICKEL	UG/L	L 50	L 50	-	L 50	2500	810
	SELENIUM	UG/L	L 10	L 10	-	L 10	80	L 30
	SILVER	UG/L	4	L 1	75	4	710	210
	ZINC	UG/L	200	57	71	160	25000	3300
NON-CONV. METALS	ALUMINUM	UG/L	17000	250	99	8940	NOT RUN	NOT RUN
	BARIUM	UG/L	130	21	84	94	NOT RUN	NOT RUN
	BORON	UG/L	140	130	7	56	NOT RUN	NOT RUN
	CALCIUM	MG/L	53	45	15	47	NOT RUN	NOT RUN
	COBALT	UG/L	12	13	-	14	NOT RUN	NOT RUN
	IRON	UG/L	4280	390	91	2630	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	10	8	20	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	500	220	56	340	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	L 10	12	-	L 10	NOT RUN	NOT RUN
	SODIUM	MG/L	295	267	9	271	NOT RUN	NOT RUN
	TITANIUM	UG/L	55	L 5	91	49	NOT RUN	NOT RUN
	VANADIUM	UG/L	9	L 5	44	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	7	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 01/03/01
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/02 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	190	17	91	230	3500	1900
	TOTAL SUSP. SOLIDS	MG/L	122	23	81	211	28200	7520
	COD	MG/L	430	83	81	530	34000	8200
	OIL & GREASE	MG/L	18	2	89	15	2780	210
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	950	45	95	870	2400	169
	TOTAL SOLIDS	MG/L	1090	935	14	1200	29400	8510
	TOTAL DISS. SOLIDS	MG/L	968	912	6	996	1240	990
	TOTAL VOLATILE SOLIDS	MG/L	209	84	60	242	17000	6060
	VOLATILE DISS. SOLIDS	MG/L	126	70	44	120	360	160
	TOTAL VOL. SUS. SOLIDS	MG/L	83	14	83	122	16600	5900
	AMMONIA NITROGEN	MG/L	33	16	52	29	40	17
	TOC	MG/L	170	36	79	210	2100	320
VOLATILES	BENZENE	UG/L	12	2	83	11	N-D	N-D
	CHLOROBENZENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	24	N-D	99+	14	N-D	N-D
	CHLOROFORM	UG/L	14	17	-	70	45	N-D
	ETHYLBENZENE	UG/L	12	N-D	99+	29	50	N-D
	METHYLENE CHLORIDE	UG/L	120	84	30	110	75	N-D
	TETRACHLOROETHYLENE	UG/L	16	N-D	99+	17	N-D	N-D
	TOLUENE	UG/L	310	4	99	290	420	N-D
	TRICHLOROETHYLENE	UG/L	12	N-D	99+	18	80	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	2	N-D	99+	N-D	N-D	N-D
	PHENOL	UG/L	280	T	97	670	270	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	1	-	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	5	8	-	4	840	88
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	150	N-D
	1,3-DICHLOROBENZENE	UG/L	3	1	67	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	1	12	N-D
	FLUORANTHENE	UG/L	2	N-D	99+	N-D	250	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	600	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	5	3	40	4	450	N-D
	BUTYL BENZYL PHTHALATE	UG/L	N-D	N-D	-	N-D	140	N-D
	DI-N-BUTYL PHTHALATE	UG/L	2	N-D	99+	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	2	2	-	2	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	81	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	83	N-D
	ANTHRACENE	UG/L	1	N-D	99+	N-D	120	N-D
	FLUORENE	UG/L	1	1	-	N-D	86	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	N-D	210	N-D
	PYRENE	UG/L	2	N-D	99+	N-D	190	N-D
METALS	ANTIMONY	UG/L	L 5	L 5	-	L 5	190	L 40
	ARSENIC	UG/L	L 10	L 10	-	L 10	1100	73
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	110	7
	CADMIUM	UG/L	L 5	L 5	-	L 5	260	50
	CHROMIUM	UG/L	43	L 10	77	51	24000	3400

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/02
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/02 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	COPPER	UG/L	52	13	75	56	16000	1100
	CYANIDE	UG/L	25	67	-	23	843	79
	LEAD	UG/L	L 50	L 50	-	L 50	9000	600
	MERCURY	NG/L	300	L 300	-	L 300	25	L 6000
	NICKEL	UG/L	71	L 50	30	90	7500	750
	SILVER	UG/L	2	L 1	50	3	1200	250
	ZINC	UG/L	110	38	65	160	49000	3000
NON-CONV. METALS	ALUMINUM	UG/L	2690	240	91	7380	NOT RUN	NOT RUN
	BARIUM	UG/L	72	19	74	94	NOT RUN	NOT RUN
	BORON	UG/L	59	70	-	54	NOT RUN	NOT RUN
	CALCIUM	MG/L	45	43	4	46	NOT RUN	NOT RUN
	COBALT	UG/L	7	10	-	10	NOT RUN	NOT RUN
	IRON	UG/L	1840	200	89	2608	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	310	220	29	380	NOT RUN	NOT RUN
	SODIUM	MG/L	274	287	-	270	NOT RUN	NOT RUN
	TITANIUM	UG/L	13	L 5	62	25	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	9	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/02
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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/03/02 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	61	310	L 1
	TOTAL SUSP. SOLIDS	MG/L	382	694	2
	COD	MG/L	460	1100	L 25
	OIL & GREASE	MG/L	23	34	L 2
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	240	400	L 5
	TOTAL SOLIDS	MG/L	1760	2280	126
	TOTAL DISS. SOLIDS	MG/L	1380	1590	124
	TOTAL VOLATILE SOLIDS	MG/L	239	719	34
	VOLATILE DISS. SOLIDS	MG/L	148	324	32
	TOTAL VOL. SUS. SOLIDS	MG/L	91	395	2
	AMMONIA NITROGEN	MG/L	100	108	L 1
	TOC	MG/L	200	385	4
VOLATILES	BENZENE	UG/L	2	12	2
	CHLOROBENZENE	UG/L	N-D	50	1
	1,1,1-TRICHLOROETHANE	UG/L	N-D	1	1
	CHLOROFORM	UG/L	N-D	1	30
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	22	N-D
	ETHYLBENZENE	UG/L	N-D	380	N-D
	METHYLENE CHLORIDE	UG/L	14	16	4
	TOLUENE	UG/L	14	150	4
ACID EXTRACT	2,4-DIMETHYLPHENOL	UG/L	18	N-D	N-D
	PHENOL	UG/L	4	25	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	6	N-D
	1,3-DICHLOROBENZENE	UG/L	7	31	N-D
	1,4-DICHLOROBENZENE	UG/L	1	4	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	N-D	5	N-D
	FLUORANTHENE	UG/L	4	4	N-D
	BIS(2-CHLOROETHYOXY) METHANE	UG/L	5	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	46	35	92
	DI-N-BUTYL PHTHALATE	UG/L	5	4	4
	DI-N-OCTYL PHTHALATE	UG/L	16	14	N-D
	DIETHYL PHTHALATE	UG/L	18	11	N-D
	CHRYSENE	UG/L	2	2	N-D
	ANTHRACENE	UG/L	5	N-D	N-D
	FLUORENE	UG/L	6	6	N-D
	PHENANTHRENE	UG/L	5	N-D	N-D
	PYRENE	UG/L	4	4	N-D
METALS	ARSENIC	UG/L	18	18	L 10
	CADMIUM	UG/L	L 5	7	L 5
	CHROMIUM	UG/L	130	310	L 10
	COPPER	UG/L	110	220	L 10
	CYANIDE	UG/L	36	44	6
	LEAD	UG/L	82	140	L 50
	MERCURY	NG/L	800	1600	L 300

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DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 01/03/02 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
METALS	NICKEL	UG/L	74	150	L 50
	SILVER	UG/L	5	5	L 1
	ZINC	UG/L	400	780	37
NON-CONV. METALS	ALUMINUM	UG/L	7370	15000	56
	BARIUM	UG/L	220	360	21
	BORON	UG/L	160	240	L 20
	CALCIUM	MG/L	266	260	23
	COBALT	UG/L	13	25	L 5
	IRON	UG/L	6550	10800	L 30
	MAGNESIUM	MG/L	39	39	4
	MANGANESE	UG/L	2110	2480	L 10
	MOLYBDENUM	UG/L	L 10	10	L 10
	SODIUM	MG/L	261	259	8
	TITANIUM	UG/L	L 50	L 50	75
	VANADIUM	UG/L	L 5	10	L 5
	YTTRIUM	UG/L	33	97	L 5

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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/03 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	450	29	94	630	3600	2000
	TOTAL SUSP. SOLIDS	MG/L	216	25	88	195	17000	5750
	COD	MG/L	830	260	69	750	41000	6100
	OIL & GREASE	MG/L	19	3	84	41	3480	309
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	500	58	88	670	1150	163
	TOTAL SOLIDS	MG/L	1290	983	24	1390	18200	6700
	TOTAL DISS. SOLIDS	MG/L	1070	958	10	1190	1220	950
	TOTAL VOLATILE SOLIDS	MG/L	315	108	66	378	11000	4320
	VOLATILE DISS. SOLIDS	MG/L	170	90	47	250	350	140
	TOTAL VOL. SUS. SOLIDS	MG/L	145	18	88	128	10600	4180
	AMMONIA NITROGEN	MG/L	22	16	27	23	54	24
	TOC	MG/L	285	47	84	310	950	460
VOLATILES	BENZENE	UG/L	8	1	88	10	N-D	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	10	N-D	99+	12	24	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	2	-	N-D	80	N-D
	CHLOROFORM	UG/L	110	40	64	110	N-D	30
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	17	1	94	23	90	N-D
	METHYLENE CHLORIDE	UG/L	120	93	22	240	N-D	N-D
	TRICHLOROFLUOROMETHANE	UG/L	6	N-D	99+	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	34	N-D	99+	17	49	N-D
	TOLUENE	UG/L	230	10	96	230	480	N-D
	TRICHLOROETHYLENE	UG/L	13	1	92	12	130	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	N-D	N-D	-	3	N-D	N-D
	PARACHLOROMETA CRESOL	UG/L	N-D	N-D	-	3	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	3	N-D	99+	4	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	PHENOL	UG/L	270	N-D	99+	120	110	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	2	N-D	99+	220	64	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	11	4	64	11	570	N-D
	BIS(2-CHLOROETHYL) ETHER	UG/L	4	N-D	99+	N-D	N-D	N-D
	1,3-DICHLOROBENZENE	UG/L	5	N-D	99+	4	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	11	N-D	99+	7	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	1	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	2	N-D	99+	3	210	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	610	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	5	N-D	99+	8	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	2	3	-	3	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	57	-	2	N-D	N-D
	DIETHYL PHTHALATE	UG/L	1	7	-	11	N-D	N-D
	DIMETHYL PHTHALATE	UG/L	N-D	28	-	16	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	59	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	60	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	2	86	N-D
	FLUORENE	UG/L	2	N-D	99+	2	60	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/03
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/03 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PHENANTHRENE	UG/L	N-D	N-D	-	2	150	N-D
	PYRENE	UG/L	2	N-D	99+	N-D	170	N-D
METALS	ANTIMONY	UG/L	17	L 10	41	L 10	130	60
	ARSENIC	UG/L	L 10	L 10	-	L 10	390	93
	BERYLLIUM	UG/L	4	L 1	75	L 1	100	18
	CADMIUM	UG/L	40	29	27	28	230	50
	CHROMIUM	UG/L	140	19	86	96	17000	3400
	COPPER	UG/L	78	16	79	50	9800	1100
	CYANIDE	UG/L	127	152	-	185	530	44
	LEAD	UG/L	74	52	30	50	5300	600
	MERCURY	NG/L	400	L 300	25	400	38000	L 6000
	NICKEL	UG/L	56	59	-	61	4000	720
	SILVER	UG/L	7	1	86	7	1200	200
	ZINC	UG/L	310	53	83	250	30000	3300
NON-CONV. METALS	ALUMINUM	UG/L	3330	310	91	4130	NOT RUN	NOT RUN
	BARIUM	UG/L	150	24	84	120	NOT RUN	NOT RUN
	BORON	UG/L	160	68	57	120	NOT RUN	NOT RUN
	CALCIUM	MG/L	52	45	13	52	NOT RUN	NOT RUN
	COBALT	UG/L	7	10	-	L 5	NOT RUN	NOT RUN
	IRON	UG/L	2660	97	96	2310	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	230	23	330	NOT RUN	NOT RUN
	SODIUM	MG/L	312	320	-	318	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	72	-	L 50	NOT RUN	NOT RUN
	YTTRIUM	UG/L	10	L 5	50	13	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/03
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/04 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	420	52	88	380	7700	2500
	TOTAL SUSP. SOLIDS	MG/L	365	31	92	214	15400	5430
	COD	MG/L	900	240	73	800	37000	7900
	OIL & GREASE	MG/L	33	4	88	37	2310	429
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	420	80	81	480	900	175
	TOTAL SOLIDS	MG/L	1630	1100	33	1430	16900	6340
	TOTAL DISS. SOLIDS	MG/L	1260	1070	15	1220	1500	910
	TOTAL VOLATILE SOLIDS	MG/L	361	76	79	269	10400	4070
	VOLATILE DISS. SOLIDS	MG/L	150	52	65	148	310	170
	TOTAL VOL. SUS. SOLIDS	MG/L	211	24	89	121	10100	3900
	AMMONIA NITROGEN	MG/L	20	14	30	20	36	18
	TOC	MG/L	335	80	76	305	990	500
VOLATILES	BENZENE	UG/L	11	4	64	14	N-D	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	7	2	71	N-D	N-D	N-D
	CHLOROFORM	UG/L	86	46	47	110	69	27
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	1	N-D	N-D
	ETHYLBENZENE	UG/L	25	14	44	48	67	N-D
	METHYLENE CHLORIDE	UG/L	144	30	79	53	140	N-D
	TETRACHLOROETHYLENE	UG/L	38	16	58	63	190	N-D
	TOLUENE	UG/L	170	27	84	210	360	N-D
	TRICHLOROETHYLENE	UG/L	8	2	75	11	45	N-D
ACID EXTRACT	2,4-DIMETHYLPHENOL	UG/L	6	N-D	99+	12	N-D	N-D
	PHENOL	UG/L	150	12	92	210	220	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	2	N-D	99+	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	13	4	69	11	590	87
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	110	N-D
	1,3-DICHLOROBENZENE	UG/L	6	1	83	4	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	6	2	67	6	78	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	1	N-D	99+	1	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	1	200	N-D
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	450	78
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	4	33	5	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	3	1	67	2	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	N-D	N-D	-	3	N-D	N-D
	DIETHYL PHTHALATE	UG/L	1	1	-	2	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	88	N-D
	CHRYSENE	UG/L	N-D	N-D	-	2	57	N-D
	ANTHRACENE	UG/L	1	N-D	99+	1	64	N-D
	FLUORENE	UG/L	2	1	50	2	N-D	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	1	140	N-D
	INDENO(1,2,3-C,D) PYRENE	UG/L	N-D	N-D	-	N-D	150	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	130	L 40
	ARSENIC	UG/L	14	L 10	29	14	160	90
	BERYLLIUM	UG/L	12	L 1	92	1	25	15

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/04
L-LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/04 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CADMIUM	UG/L	20	12	40	15	130	50
	CHROMIUM	UG/L	110	15	86	110	10000	3700
	COPPER	UG/L	82	L 10	88	61	4400	1300
	CYANIDE	UG/L	22	91	-	75	1280	32
	LEAD	UG/L	67	L 50	25	L 50	2800	680
	MERCURY	NG/L	300	L 300	-	L 300	56000	L 6000
	NICKEL	UG/L	170	90	47	180	2200	750
	SILVER	UG/L	7	1	86	8	520	300
	ZINC	UG/L	400	63	84	290	15000	3600
NON-CONV. METALS	ALUMINUM	UG/L	9850	510	95	7410	NOT RUN	NOT RUN
	BARIUM	UG/L	180	22	88	130	NOT RUN	NOT RUN
	BORON	UG/L	140	97	31	140	NOT RUN	NOT RUN
	CALCIUM	MG/L	49	44	10	47	NOT RUN	NOT RUN
	COBALT	UG/L	9	L 5	44	L 5	NOT RUN	NOT RUN
	IRON	UG/L	2810	320	89	2250	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	10	9	10	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	290	210	28	280	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	19	L 10	47	14	NOT RUN	NOT RUN
	SODIUM	MG/L	350	326	7	353	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	56	-	L 60	NOT RUN	NOT RUN
	VANADIUM	UG/L	12	L 5	58	7	NOT RUN	NOT RUN
	YTTRIUM	UG/L	230	L 5	98	42	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/04
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/05 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	NOT RUN	53	-	310	2100	3700
	TOTAL SUSP. SOLIDS	MG/L	NOT RUN	35	-	174	24400	7770
	COD	MG/L	NOT RUN	230	-	580	33000	14000
	OIL & GREASE	MG/L	NOT RUN	68	-	54	2840	656
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	NOT RUN	95	-	320	843	188
	TOTAL SOLIDS	MG/L	NOT RUN	941	-	1020	25500	8630
	TOTAL DISS. SOLIDS	MG/L	NOT RUN	906	-	842	1130	860
	TOTAL VOLATILE SOLIDS	MG/L	NOT RUN	126	-	251	13200	5290
	VOLATILE DISS. SOLIDS	MG/L	NOT RUN	106	-	152	350	170
	TOTAL VOL. SUS. SOLIDS	MG/L	NOT RUN	20	-	99	12800	5120
	AMMONIA NITROGEN	MG/L	NOT RUN	8	-	9	30	21
	TOC	MG/L	NOT RUN	75	-	200	730	550
VOLATILES	BENZENE	UG/L	NOT RUN	4	-	14	N-D	N-D
	CHLOROBENZENE	UG/L	NOT RUN	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	NOT RUN	5	-	24	N-D	N-D
	CHLOROFORM	UG/L	NOT RUN	42	-	78	50	25
	ETHYLBENZENE	UG/L	NOT RUN	18	-	110	60	N-D
	METHYLENE CHLORIDE	UG/L	NOT RUN	290	-	150	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	NOT RUN	11	-	30	150	N-D
	TOLUENE	UG/L	NOT RUN	52	-	330	270	55
	TRICHLOROETHYLENE	UG/L	NOT RUN	17	-	72	32	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	NOT RUN	N-D	-	44	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	NOT RUN	N-D	-	13	N-D	N-D
	PHENOL	UG/L	NOT RUN	520	-	130	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	NOT RUN	1	-	5	530	90
	1,3-DICHLOROBENZENE	UG/L	NOT RUN	1	-	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	NOT RUN	N-D	-	1	N-D	N-D
	FLUORANTHENE	UG/L	NOT RUN	N-D	-	2	220	64
	NAPHTHALENE	UG/L	NOT RUN	N-D	-	N-D	540	84
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	NOT RUN	3	-	9	N-D	N-D
	BUTYL BENZYL PHTHALATE	UG/L	NOT RUN	N-D	-	N-D	160	N-D
	DI-N-BUTYL PHTHALATE	UG/L	NOT RUN	N-D	-	4	N-D	N-D
	DI-N-OCTYL PHTHALATE	UG/L	NOT RUN	1	-	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	NOT RUN	16	-	57	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	NOT RUN	N-D	-	N-D	76	N-D
	11,12-BENZOFLUORANTHENE	UG/L	NOT RUN	N-D	-	N-D	52	N-D
	CHRYSENE	UG/L	NOT RUN	N-D	-	2	76	N-D
	ANTHRACENE	UG/L	NOT RUN	N-D	-	2	60	N-D
	FLUORENE	UG/L	NOT RUN	N-D	-	3	78	N-D
	PHENANTHRENE	UG/L	NOT RUN	N-D	-	2	180	N-D
	PYRENE	UG/L	NOT RUN	N-D	-	2	170	56
METALS	ANTIMONY	UG/L	NOT RUN	L 10	-	L 10	60	L 30
	ARSENIC	UG/L	NOT RUN	L 10	-	12	260	20
	BERYLLIUM	UG/L	NOT RUN	L 1	-	L 1	45	40
	CADMIUM	UG/L	NOT RUN	9	-	18	70	90

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/05
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 01/03/05 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	UG/L	NOT RUN	27	-	200	3700	5100
	COPPER	UG/L	NOT RUN	L 10	-	61	2500	1700
	CYANIDE	UG/L	NOT RUN	67	-	117	1090	192
	LEAD	UG/L	NOT RUN	L 50	-	94	2600	1100
	MERCURY	NG/L	NOT RUN	L 300	-	300	63000	9000
	NICKEL	UG/L	NOT RUN	55	-	57	1300	930
	SILVER	UG/L	NOT RUN	1	-	5	330	390
	ZINC	UG/L	NOT RUN	88	-	300	9600	5300
NON-CONV. METALS	ALUMINUM	UG/L	NOT RUN	610	-	5570	NOT RUN	NOT RUN
	BARIUM	UG/L	NOT RUN	23	-	120	NOT RUN	NOT RUN
	BORON	UG/L	NOT RUN	61	-	75	NOT RUN	NOT RUN
	CALCIUM	MG/L	NOT RUN	39	-	46	NOT RUN	NOT RUN
	COBALT	UG/L	NOT RUN	8	-	16	NOT RUN	NOT RUN
	IRON	UG/L	NOT RUN	340	-	3130	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	NOT RUN	8	-	7	NOT RUN	NOT RUN
	MANGANESE	UG/L	NOT RUN	180	-	250	NOT RUN	NOT RUN
	SODIUM	MG/L	NOT RUN	268	-	213	NOT RUN	NOT RUN
	VANADIUM	UG/L	NOT RUN	L 5	-	9	NOT RUN	NOT RUN
	YTTRIUM	UG/L	NOT RUN	L 5	-	54	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 01/03/05
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/06 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	410	59	86	280	2200	4000
	TOTAL SUSP. SOLIDS	MG/L	347	42	88	274	24700	8320
	COD	MG/L	870	210	76	740	37000	11000
	OIL & GREASE	MG/L	16	5	69	22	1420	695
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	620	205	67	600	600	288
	TOTAL SOLIDS	MG/L	1390	938	33	1300	25900	9080
	TOTAL DISS. SOLIDS	MG/L	1040	896	14	1030	1200	760
	TOTAL VOLATILE SOLIDS	MG/L	558	205	63	446	15300	6300
	VOLATILE DISS. SOLIDS	MG/L	296	174	41	262	360	150
	TOTAL VOL. SUS. SOLIDS	MG/L	262	31	88	184	14900	6150
	AMMONIA NITROGEN	MG/L	12	7	42	12	23	14
	TOC	MG/L	375	73	81	310	830	510
VOLATILES	BENZENE	UG/L	43	18	58	48	38	31
	CHLOROBENZENE	UG/L	3	N-D	99+	3	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	11	3	73	14	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	82	N-D
	CHLOROFORM	UG/L	98	42	57	110	77	35
	ETHYLBENZENE	UG/L	18	5	72	25	74	N-D
	METHYLENE CHLORIDE	UG/L	47	25	47	39	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	33	5	85	38	N-D	39
	TOLUENE	UG/L	1200	670	44	1500	1600	1500
	TRICHLOROETHYLENE	UG/L	6	1	83	7	190	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	22	17	23	17	N-D	N-D
	PHENOL	UG/L	500	47	91	490	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	6	4	33	3	410	74
	1,3-DICHLOROBENZENE	UG/L	2	2	-	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	5	3	40	N-D	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	UG/L	1	N-D	99+	N-D	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	160	62
	NAPHTHALENE	UG/L	N-D	N-D	-	N-D	390	88
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	3	N-D	99+	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	2	N-D	99+	N-D	N-D	340
	DIETHYL PHTHALATE	UG/L	2	5	-	4	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	FLUORENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	N-D	140	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	130	52
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	180	85
	ARSENIC	UG/L	10	L 10	-	10	260	190
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	54	27
	CADMIUM	UG/L	12	5	58	12	260	80
	CHROMIUM	UG/L	340	52	85	320	14000	3900
	COPPER	UG/L	91	L 10	89	67	7100	1400
	CYANIDE	UG/L	61	34	44	53	896	205
	LEAD	UG/L	L 50	L 50	-	L 50	6400	940

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/06
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/06 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	MERCURY	NG/L	400	L 300	25	400	81000	9000
	NICKEL	UG/L	54	L 50	7	60	6900	700
	SILVER	UG/L	6	1	83	5	830	230
	ZINC	UG/L	260	39	85	240	27000	4600
NON-CONV. METALS	ALUMINUM	UG/L	6770	510	92	5910	NOT RUN	NOT RUN
	BARIUM	UG/L	130	23	82	120	NOT RUN	NOT RUN
	BORON	UG/L	110	69	37	120	NOT RUN	NOT RUN
	CALCIUM	MG/L	55	46	16	54	NOT RUN	NOT RUN
	COBALT	UG/L	50	18	64	42	NOT RUN	NOT RUN
	IRON	UG/L	2850	200	93	2660	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	270	170	37	270	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	12	L 10	17	11	NOT RUN	NOT RUN
	SODIUM	MG/L	273	245	10	266	NOT RUN	NOT RUN
	TITANIUM	UG/L	L 50	69	-	L 50	NOT RUN	NOT RUN
	VANADIUM	UG/L	6	L 5	17	8	NOT RUN	NOT RUN
	YTTRIUM	UG/L	9	L 5	44	30	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/06
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/07 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	300	67	78	250	2900	1600
	TOTAL SUSP. SOLIDS	MG/L	478	43	91	260	22700	8710
	COD	MG/L	840	250	70	820	50000	16000
	OIL & GREASE	MG/L	49	6	88	32	159	831
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	870	400	54	950	1150	413
	TOTAL SOLIDS	MG/L	1490	1020	32	1360	23900	9440
	TOTAL DISS. SOLIDS	MG/L	1010	976	3	1100	1150	730
	TOTAL VOLATILE SOLIDS	MG/L	591	174	71	524	13400	6890
	VOLATILE DISS. SOLIDS	MG/L	272	138	49	340	300	180
	TOTAL VOL. SUS. SOLIDS	MG/L	319	36	89	184	13100	6710
	AMMONIA NITROGEN	MG/L	18	9	50	16	21	15
	TOC	MG/L	360	100	72	300	1400	610
VOLATILES	BENZENE	UG/L	34	13	62	27	70	N-D
	CHLOROBENZENE	UG/L	N-D	5	-	N-D	N-D	N-D
	1,2-DICHLOROETHANE	UG/L	11	N-D	99+	N-D	130	N-D
	1,1,1-TRICHLOROETHANE	UG/L	146	65	55	265	250	70
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	N-D	160	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	10	400	N-D
	CHLOROFORM	UG/L	113	59	48	99	97	40
	1,1-DICHLOROETHYLENE	UG/L	11	3	73	16	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	4	N-D	99+	2	N-D	N-D
	ETHYLBENZENE	UG/L	50	22	56	115	140	210
	METHYLENE CHLORIDE	UG/L	104	91	13	105	140	670
	TRICHLOROFLUOROMETHANE	UG/L	3	6	-	2	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	13	23	-	114	N-D	41
	TOLUENE	UG/L	357	170	52	319	2600	330
	TRICHLOROETHYLENE	UG/L	N-D	7	-	33	830	35
	VINYL CHLORIDE	UG/L	660	N-D	99+	N-D	N-D	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	1	N-D	99+	1	N-D	N-D
	PARACHLOROMETA CRESOL	UG/L	2	3	-	N-D	N-D	N-D
	2-CHLOROPHENOL	UG/L	N-D	1	-	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	4	N-D	99+	6	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	5	-	N-D	N-D	N-D
	4-NITROPHENOL	UG/L	36	22	39	N-D	N-D	N-D
	PENTACHLOROPHENOL	UG/L	9	N-D	99+	7	N-D	N-D
	PHENOL	UG/L	170	7	96	234	220	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	N-D	-	N-D	100	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	5	3	40	5	1100	150
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	140	N-D
	1,3-DICHLOROBENZENE	UG/L	2	3	-	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	2	76	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	440	96
	NAPHTHALENE	UG/L	27	N-D	99+	47	1200	190
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	5	N-D	99+	11	1100	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	92	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	120	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/07
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/07 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	290	N-D
METALS	ANTIMONY	UG/L	17	L 10	41	L 10	160	L 80
	ARSENIC	UG/L	10	L 10	-	10	420	30
	BERYLLIUM	UG/L	3	L 1	67	1	45	26
	CADMIUM	UG/L	L 5	L 5	-	L 5	310	110
	CHROMIUM	UG/L	140	37	74	140	15000	5400
	COPPER	UG/L	52	L 70	-	44	8900	1600
	CYANIDE	UG/L	37	58	-	37	933	172
	LEAD	UG/L	L 50	L 50	-	66	6400	1000
	MERCURY	NG/L	L 300	L 300	-	400	26000	L 6000
	NICKEL	UG/L	54	L 50	7	60	2600	780
	SILVER	UG/L	7	1	86	5	830	230
	ZINC	UG/L	240	52	78	230	28000	5000
NON-CONV. METALS	ALUMINUM	UG/L	5980	520	91	4520	NOT RUN	NOT RUN
	BARIUM	UG/L	120	27	77	120	NOT RUN	NOT RUN
	BORON	UG/L	140	87	38	140	NOT RUN	NOT RUN
	CALCIUM	MG/L	53	47	11	54	NOT RUN	NOT RUN
	COBALT	UG/L	26	21	19	32	NOT RUN	NOT RUN
	IRON	UG/L	3580	360	90	2380	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	210	30	300	NOT RUN	NOT RUN
	MOLYBDENUM	UG/L	L 10	11	-	L 10	NOT RUN	NOT RUN
	SODIUM	MG/L	249	256	-	259	NOT RUN	NOT RUN
	TITANIUM	UG/L	50	74	-	L 50	NOT RUN	NOT RUN
	VANADIUM	UG/L	7	L 5	29	6	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	12	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/07
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/08 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	400	63	84	410	12000	5000
	TOTAL SUSP. SOLIDS	MG/L	171	31	82	178	24300	8850
	COD	MG/L	660	240	64	590	38000	13000
	OIL & GREASE	MG/L	25	2	92	19	730	2970
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	870	193	78	870	1400	225
	TOTAL SOLIDS	MG/L	961	879	9	964	25500	9580
	TOTAL DISS. SOLIDS	MG/L	790	848	-	786	1200	730
	TOTAL VOLATILE SOLIDS	MG/L	415	166	60	286	16500	6890
	VOLATILE DISS. SOLIDS	MG/L	290	138	52	176	440	170
	TOTAL VOL. SUS. SOLIDS	MG/L	125	28	78	110	16100	6720
	AMMONIA NITROGEN	MG/L	20	8	60	18	29	12
	TOC	MG/L	430	82	81	255	790	490
VOLATILES	BENZENE	UG/L	15	6	60	14	25	N-D
	1,1,1-TRICHLOROETHANE	UG/L	N-D	3	-	8	32	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	110	N-D
	1,1,2,2-TETRACHLOROETHANE	UG/L	N-D	3	-	N-D	N-D	N-D
	CHLOROFORM	UG/L	59	47	20	59	64	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	N-D	99+	2	N-D	N-D
	ETHYLBENZENE	UG/L	17	11	35	N-D	110	N-D
	METHYLENE CHLORIDE	UG/L	71	112	-	70	N-D	300
	TRICHLOROFLUOROMETHANE	UG/L	3	2	33	3	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	26	5	81	25	N-D	N-D
	TOLUENE	UG/L	259	71	73	231	460	N-D
	TRICHLOROETHYLENE	UG/L	14	4	71	N-D	230	N-D
	VINYL CHLORIDE	UG/L	N-D	N-D	-	14	N-D	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	1	N-D	99+	N-D	N-D	N-D
	PARACHLUROMETA CRESOL	UG/L	1	N-D	99+	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	7	7	-	8	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	N-D	N-D	-	10	N-D	N-D
	4-NITROPHENOL	UG/L	N-D	31	-	N-D	N-D	N-D
	PENTACHLOROPHENOL	UG/L	N-D	2	-	N-D	N-D	N-D
	PHENOL	UG/L	192	62	68	223	300	N-D
BASE-NEUTRALS	BENZIDINE	UG/L	N-D	N-D	-	12	N-D	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	7	4	43	N-D	300	90
	1,3-DICHLOROBENZENE	UG/L	N-D	1	-	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	1	-	1	N-D	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	110	N-D
	NAPHTHALENE	UG/L	11	N-D	99+	25	360	200
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	N-D	99+	5	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	1	N-D	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	1	80	N-D
	PYRENE	UG/L	N-D	N-D	-	N-D	90	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	140	L 80
	ARSENIC	UG/L	L 10	L 10	-	L 10	190	27
	BERYLLIUM	UG/L	L 1	L 1	-	3	190	12

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/08
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/08 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CADMIUM	UG/L	L 5	L 5	-	L 5	180	90
	CHROMIUM	UG/L	2920	430	85	3040	31000	12000
	COPPER	UG/L	110	13	88	95	9900	1500
	CYANIDE	UG/L	46	35	24	41	117	98
	LEAD	UG/L	L 50	L 50	-	L 50	4600	1000
	MERCURY	NG/L	300	L 300	-	300	18000	L 6000
	NICKEL	UG/L	57	L 50	12	65	2600	720
	SILVER	UG/L	2	L 1	50	3	620	210
	ZINC	UG/L	210	50	76	200	24000	4400
NON-CONV. METALS	ALUMINUM	UG/L	4320	360	92	4420	NOT RUN	NOT RUN
	BARIUM	UG/L	93	26	72	110	NOT RUN	NOT RUN
	BORON	UG/L	100	73	27	110	NOT RUN	NOT RUN
	CALCIUM	MG/L	51	49	4	53	NOT RUN	NOT RUN
	COBALT	UG/L	10	12	-	11	NOT RUN	NOT RUN
	IRON	UG/L	1190	310	74	1960	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	9	-	10	NOT RUN	NOT RUN
	MANGANESE	UG/L	280	220	21	320	NOT RUN	NOT RUN
	SODIUM	MG/L	170	224	-	177	NOT RUN	NOT RUN
	TITANIUM	UG/L	67	81	-	59	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	9	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/08
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/09 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	180	21	88	220	5200	3400
	TOTAL SUSP. SOLIDS	MG/L	139	20	86	120	13300	5990
	COD	MG/L	360	110	69	360	51000	100000
	OIL & GREASE	MG/L	16	7	56	9	3210	488
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1050	28	97	950	1600	75
	TOTAL SOLIDS	MG/L	777	644	17	794	14200	6560
	TOTAL DISS. SOLIDS	MG/L	638	624	2	674	940	560
	TOTAL VOLATILE SOLIDS	MG/L	203	86	58	188	7980	4430
	VOLATILE DISS. SOLIDS	MG/L	98	70	29	112	330	140
	TOTAL VOL. SUS. SOLIDS	MG/L	105	16	85	76	7650	4290
	AMMONIA NITROGEN	MG/L	22	9	59	23	31	11
	TOC	MG/L	150	27	82	150	1300	430
VOLATILES	BENZENE	UG/L	25	3	88	25	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	6	1	83	6	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	40	N-D
	CHLOROFORM	UG/L	24	11	54	20	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	N-D	99+	3	N-D	N-D
	ETHYLBENZENE	UG/L	14	N-D	99+	22	64	N-D
	METHYLENE CHLORIDE	UG/L	60	37	38	92	29	N-D
	TRICHLOROFLUOROMETHANE	UG/L	5	2	60	3	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	9	N-D	99+	17	N-D	N-D
	TOLUENE	UG/L	537	12	98	519	310	N-D
	TRICHLOROETHYLENE	UG/L	9	N-D	99+	12	110	N-D
ACID EXTRACT	2-CHLOROPHENOL	UG/L	1	N-D	99+	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	31	6	81	25	N-D	N-D
	PHENOL	UG/L	271	1	99+	224	350	N-D
BASE-NEUTRALS	ACENAPHTHENE	UG/L	N-D	N-D	-	N-D	87	N-D
	1,2,4-TRICHLOROBENZENE	UG/L	4	3	25	5	780	N-D
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	140	N-D
	1,3-DICHLOROBENZENE	UG/L	1	N-D	99+	2	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	130	N-D
	FLUORANTHENE	UG/L	2	N-D	99+	2	320	N-D
	ISOPHORONE	UG/L	N-D	N-D	-	34	N-D	N-D
	NAPHTHALENE	UG/L	17	N-D	99+	18	570	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	8	N-D	99+	17	N-D	N-D
	DI-N-BUTYL PHTHALATE	UG/L	9	N-D	99+	N-D	N-D	N-D
	DIETHYL PHTHALATE	UG/L	5	4	20	N-D	N-D	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	75	N-D
	ACENAPHTHYLENE	UG/L	6	N-D	99+	6	N-D	N-D
	ANTHRACENE	UG/L	1	N-D	99+	N-D	65	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	67	N-D
	PHENANTHRENE	UG/L	1	N-D	99+	N-D	195	N-D
	PYRENE	UG/L	1	N-D	99+	2	245	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	160	L 80
	ARSENIC	UG/L	L 10	L 10	-	L 10	390	40

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/09
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/09 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	UG/L	L 1	L 1	-	L 1	110	26
	CADMIUM	UG/L	L 5	L 5	-	L 5	270	90
	CHROMIUM	UG/L	32	110	-	67	33000	14000
	COPPER	UG/L	39	L 10	74	42	11000	1300
	CYANIDE	UG/L	L 10	40	-	L 10	1560	181
	LEAD	UG/L	L 50	L 50	-	L 50	6600	860
	MERCURY	NG/L	L 300	L 300	-	L 300	43000	L 6000
	NICKEL	UG/L	L 50	L 50	-	L 50	2800	750
	SILVER	UG/L	2	L 1	50	2	640	150
	ZINC	UG/L	100	35	65	140	30000	3800
NON-CONV. METALS	ALUMINUM	UG/L	3110	240	92	4280	NOT RUN	NOT RUN
	BARIUM	UG/L	72	24	67	80	NOT RUN	NOT RUN
	BORON	UG/L	72	35	51	66	NOT RUN	NOT RUN
	CALCIUM	MG/L	49	48	2	54	NOT RUN	NOT RUN
	COBALT	UG/L	11	8	27	10	NOT RUN	NOT RUN
	IRON	UG/L	1300	31	98	1370	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	7	8	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	320	240	25	350	NOT RUN	NOT RUN
	SODIUM	MG/L	140	154	-	157	NOT RUN	NOT RUN
	TITANIUM	UG/L	56	55	2	160	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	0	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/09
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 01/03/09 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
CONVENTIONALS	BOD	MG/L	66	570	L 1
	TOTAL SUSP. SOLIDS	MG/L	579	2110	2
	COD	MG/L	230	2200	L 25
	OIL & GREASE	MG/L	20	162	4
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	160	240	L 5
	TOTAL SOLIDS	MG/L	2110	3500	133
	TOTAL DISS. SOLIDS	MG/L	1530	1390	131
	TOTAL VOLATILE SOLIDS	MG/L	239	1670	40
	VOLATILE DISS. SOLIDS	MG/L	134	447	40
	TOTAL VOL. SUS. SOLIDS	MG/L	105	1220	L 2
	AMMONIA NITROGEN	MG/L	85	92	L 1
	TOC	MG/L	120	805	3
VOLATILES	BENZENE	UG/L	2	8	N-D
	CHLOROBENZENE	UG/L	N-D	28	N-D
	1,1,1-TRICHLOROETHANE	UG/L	1	1	1
	1,1-DICHLOROETHANE	UG/L	N-D	6	N-D
	CHLOROFORM	UG/L	N-D	N-D	28
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	30	N-D
	ETHYLBENZENE	UG/L	5	217	N-D
	METHYLENE CHLORIDE	UG/L	14	14	14
	DICHLOROBROMOMETHANE	UG/L	N-D	N-D	3
	TRICHLOROFLUOROMETHANE	UG/L	2	2	2
	TOLUENE	UG/L	11	171	7
ACID EXTRACT	PHENOL	UG/L	N-D	40	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	30	N-D
	1,3-DICHLOROBENZENE	UG/L	1	11	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	12	N-D
	FLUORANTHENE	UG/L	N-D	14	N-D
	NAPHTHALENE	UG/L	N-D	121	N-D
	N-NITROSODIPHENYLAMINE	UG/L	N-D	19	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	6	117	236
	DI-N-BUTYL PHTHALATE	UG/L	N-D	13	N-D
	DI-N-OCTYL PHTHALATE	UG/L	3	28	14
	DIETHYL PHTHALATE	UG/L	9	N-D	N-D
	1,2-BENZANTHRACENE	UG/L	N-D	7	N-D
	ANTHRACENE	UG/L	1	20	N-D
	FLUORENE	UG/L	N-D	19	N-D
	PHENANTHRENE	UG/L	1	20	N-D
METALS	ANTIMONY	UG/L	L 10	10	L 10
	ARSENIC	UG/L	10	110	L 10
	BERYLLIUM	UG/L	L 1	5	L 1
	CADMIUM	UG/L	L 5	25	L 5
	CHROMIUM	UG/L	34	970	L 10
	COPPER	UG/L	40	730	L 10

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/09
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA
ADDITIONAL SAMPLE POINTS

SAMPLE DATE ENDING 81/03/09 0800 HOURS

FRACTION	PARAMETER	UNITS	VACUUM FILTER FILTRATE	DIGESTER SUPERNATANT	TAP WATER
METALS	CYANIDE	UG/L	L 10	52	L 10
	LEAD	UG/L	L 50	480	L 50
	MERCURY	NG/L	L 300	5800	L 300
	NICKEL	UG/L	L 50	360	L 50
	SILVER	UG/L	2	13	L 1
	ZINC	UG/L	110	2420	18
NON-CONV. METALS	ALUMINUM	UG/L	2140	58200	L 40
	BARIUM	UG/L	140	1160	21
	BORON	UG/L	150	220	L 20
	CALCIUM	MG/L	311	356	24
	COBALT	UG/L	7	67	L 5
	IRON	UG/L	2520	28800	L 30
	MAGNESIUM	MG/L	42	45	4
	MANGANESE	UG/L	1740	3400	L 10
	MOLYBDENUM	UG/L	L 10	35	L 10
	SODIUM	MG/L	277	273	7
	TITANIUM	UG/L	L 50	L 50	54
	VANADIUM	UG/L	L 5	43	L 5
	YTTRIUM	UG/L	11	460	L 5

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/09
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/10 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	440	35	92	330	11000	3000
	TOTAL SUSP. SOLIDS	MG/L	315	24	92	202	7380	7340
	COD	MG/L	740	140	81	700	45000	10000
	OIL & GREASE	MG/L	22	11	50	16	989	318
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1220	73	94	1200	1150	113
	TOTAL SOLIDS	MG/L	1320	810	39	1270	8560	7930
	TOTAL DISS. SOLIDS	MG/L	1000	786	21	1070	1180	590
	TOTAL VOLATILE SOLIDS	MG/L	361	55	85	288	5160	5430
	VOLATILE DISS. SOLIDS	MG/L	156	40	74	172	360	100
	TOTAL VOL. SUS. SOLIDS	MG/L	205	15	93	116	4800	5330
	AMMONIA NITROGEN	MG/L	17	12	29	19	33	12
	TOC	MG/L	300	61	80	260	3000	380
VOLATILES	BENZENE	UG/L	13	3	77	13	25	N-D
	1,1,1-TRICHLOROETHANE	UG/L	7	2	71	6	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	7	N-D	99+	1	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	53	N-D
	CHLOROFORM	UG/L	124	50	60	109	100	25
	1,2-TRANS-DICHLOROETHYLENE	UG/L	2	N-D	99+	2	N-D	N-D
	ETHYLBENZENE	UG/L	74	8	89	37	70	N-D
	METHYLENE CHLORIDE	UG/L	61	27	56	42	N-D	N-D
	TRICHLOROFLUOROMETHANE	UG/L	2	1	50	1	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	23	2	91	18	N-D	N-D
	TOLUENE	UG/L	280	35	88	283	740	N-D
	TRICHLOROETHYLENE	UG/L	7	1	86	7	140	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	UG/L	8	8	-	N-D	N-D	N-D
	PHENOL	UG/L	287	15	95	393	340	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	7	3	57	9	800	960
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	94	N-D
	1,3-DICHLOROBENZENE	UG/L	1	N-D	99+	4	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	5	1	80	9	140	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	560	N-D
	NAPHTHALENE	UG/L	39	N-D	99+	N-D	980	74
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	100	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	120	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	280	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	120	L 80
	ARSENIC	UG/L	14	L 10	29	11	230	40
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	62	28
	CADMIUM	UG/L	5	L 5	-	L 5	270	90
	CHROMIUM	UG/L	190	48	75	200	21000	14000
	COPPER	UG/L	98	12	88	92	10000	1400
	CYANIDE	UG/L	161	111	31	71	1610	242
	LEAD	UG/L	L 50	L 50	-	L 50	5900	1000
	MERCURY	NG/L	600	L 300	50	600	85000	L 6000
	NICKEL	UG/L	53	L 50	6	54	2900	750

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/10
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/10 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	UG/L	9	1	89	10	840	180
	ZINC	UG/L	530	93	82	390	33000	4000
NON-CONV. METALS	ALUMINUM	UG/L	9050	330	96	5660	NOT RUN	NOT RUN
	BARIUM	UG/L	150	28	81	130	NOT RUN	NOT RUN
	BORON	UG/L	120	98	18	150	NOT RUN	NOT RUN
	CALCIUM	MG/L	52	50	4	52	NOT RUN	NOT RUN
	COBALT	UG/L	22	7	68	17	NOT RUN	NOT RUN
	IRON	UG/L	4660	160	97	2900	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	8	NOT RUN	NOT RUN
	MANGANESE	UG/L	430	260	40	330	NOT RUN	NOT RUN
	SODIUM	MG/L	277	232	16	273	NOT RUN	NOT RUN
	VANADIUM	UG/L	9	L 5	44	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	8	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/10
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N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/11 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	440	53	88	400	11000	3400
	TOTAL SUSP. SOLIDS	MG/L	333	32	90	209	29300	9030
	COD	MG/L	900	210	77	870	41000	12000
	OIL & GREASE	MG/L	48	L 2	96	35	1980	489
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	1100	275	75	1300	2100	263
	TOTAL SOLIDS	MG/L	1570	1060	32	1560	31000	9850
	TOTAL DISS. SOLIDS	MG/L	1240	1030	17	1350	1620	820
	TOTAL VOLATILE SOLIDS	MG/L	525	112	79	424	18600	7250
	VOLATILE DISS. SOLIDS	MG/L	312	84	73	292	460	130
	TOTAL VOL. SUS. SOLIDS	MG/L	213	28	87	132	18100	7120
	AMMONIA NITROGEN	MG/L	18	12	33	19	34	14
	TOC	MG/L	345	75	78	350	2200	470
VOLATILES	BENZENE	UG/L	14	4	71	14	N-D	N-D
	CARBON TETRACHLORIDE	UG/L	N-D	N-D	-	1	N-D	N-D
	CHLOROBENZENE	UG/L	N-D	N-D	-	2	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	11	2	82	8	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	N-D	N-D	-	1	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	N-D	N-D	-	N-D	370	N-D
	CHLOROFORM	UG/L	121	52	57	117	87	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	N-D	N-D	-	2	N-D	N-D
	ETHYLBENZENE	UG/L	56	8	86	37	81	N-D
	METHYLENE CHLORIDE	UG/L	73	38	48	56	N-D	N-D
	TRICHLOROFLUOROMETHANE	UG/L	2	1	50	1	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	216	43	80	240	N-D	29
	TOLUENE	UG/L	256	48	81	235	410	N-D
	TRICHLOROETHYLENE	UG/L	9	1	89	10	1000	35
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	UG/L	2	N-D	99+	N-D	N-D	N-D
	PARACHLUROMETA CRESOL	UG/L	4	N-D	99+	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	11	12	-	10	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	21	17	19	31	N-D	N-D
	2-NITROPHENOL	UG/L	N-D	N-D	-	78	N-D	N-D
	PENTACHLOROPHENOL	UG/L	13	N-D	99+	N-D	N-D	N-D
	PHENOL	UG/L	646	128	80	751	560	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	5	N-D	99+	N-D	1200	96
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	150	N-D
	1,3-DICHLOROBENZENE	UG/L	10	N-D	99+	12	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	110	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	400	100
	NAPHTHALENE	UG/L	30	N-D	99+	N-D	4000	98
	1,2-BENZANTHRACENE	UG/L	N-D	N-D	-	N-D	92	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	86	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	120	N-D
	ACENAPHTHYLENE	UG/L	N-D	N-D	-	N-D	80	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	90	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	180	N-D
	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	360	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/11
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/11 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PYRENE	UG/L	N-D	N-D	-	N-D	300	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	120	L 80
	ARSENIC	UG/L	14	14	-	L 10	480	30
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	53	22
	CADMIUM	UG/L	6	L 5	17	L 5	290	100
	CHROMIUM	UG/L	160	45	72	160	20000	9600
	COPPER	UG/L	100	15	85	90	8300	1100
	CYANIDE	UG/L	148	102	31	133	934	148
	LEAD	UG/L	L 50	L 50	-	L 50	6600	930
	MERCURY	NG/L	500	L 300	40	300	35000	L 6000
	NICKEL	UG/L	L 50	L 50	-	L 50	2600	270
	SILVER	UG/L	8	2	75	8	830	190
	ZINC	UG/L	550	130	76	470	36000	3000
NON-CONV. METALS	ALUMINUM	UG/L	5300	380	93	5660	NOT RUN	NOT RUN
	BARIUM	UG/L	140	27	81	140	NOT RUN	NOT RUN
	BORON	UG/L	170	100	41	190	NOT RUN	NOT RUN
	CALCIUM	MG/L	48	44	8	49	NOT RUN	NOT RUN
	COBALT	UG/L	11	11	-	9	NOT RUN	NOT RUN
	IRON	UG/L	4210	290	93	3020	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	9	8	11	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	230	23	310	NOT RUN	NOT RUN
	SODIUM	MG/L	360	317	12	384	NOT RUN	NOT RUN
	VANADIUM	UG/L	9	L 5	44	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/11
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
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DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 01/03/12 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	MG/L	620	54	91	470	4900	3400
	TOTAL SUSP. SOLIDS	MG/L	379	38	90	257	4940	3740
	COD	MG/L	1100	250	77	870	45000	13000
	OIL & GREASE	MG/L	22	9	59	13	993	472
NON-CONVENTIONALS	TOTAL PHENOLS	UG/L	950	183	81	1050	1400	250
	TOTAL SOLIDS	MG/L	1590	1250	21	1550	6340	4750
	TOTAL DISS. SOLIDS	MG/L	1210	1210	-	1290	1400	1010
	TOTAL VOLATILE SOLIDS	MG/L	533	236	56	494	3550	2980
	VOLATILE DISS. SOLIDS	MG/L	252	204	19	316	300	160
	TOTAL VOL. SUS. SOLIDS	MG/L	281	32	89	178	3250	2820
	AMMONIA NITROGEN	MG/L	18	10	44	19	38	18
	TOC	MG/L	405	90	78	345	1500	340
VOLATILES	BENZENE	UG/L	14	4	71	15	N-D	N-D
	CARBON TETRACHLORIDE	UG/L	1	N-D	99+	N-D	N-D	N-D
	CHLOROBENZENE	UG/L	4	2	50	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	UG/L	10	3	70	15	N-D	N-D
	1,1-DICHLOROETHANE	UG/L	2	N-D	99+	2	N-D	N-D
	1,1,2-TRICHLOROETHANE	UG/L	1	N-D	99+	N-D	320	N-D
	CHLOROFORM	UG/L	100	35	65	130	63	25
	1,1-DICHLOROETHYLENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	UG/L	3	N-D	99+	2	N-D	N-D
	1,2-DICHLOROPROPANE	UG/L	1	N-D	99+	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	UG/L	1	N-D	99+	N-D	N-D	N-D
	ETHYLBENZENE	UG/L	30	7	77	32	76	N-D
	METHYLENE CHLORIDE	UG/L	140	29	79	63	N-D	N-D
	TRICHLOROFLUOROMETHANE	UG/L	1	N-D	99+	1	N-D	N-D
	CHLORODIBROMOMETHANE	UG/L	1	N-D	99+	N-D	N-D	N-D
	TETRACHLOROETHYLENE	UG/L	76	13	83	170	65	N-D
	TOLUENE	UG/L	290	40	86	300	370	N-D
	TRICHLOROETHYLENE	UG/L	10	1	90	9	650	N-D
ACID EXTRACT	PARACHLOROMETA CRESOL	UG/L	N-D	N-D	-	2	N-D	N-D
	2,4-DICHLOROPHENOL	UG/L	5	8	-	9	N-D	N-D
	2,4-DIMETHYLPHENOL	UG/L	13	11	15	17	N-D	N-D
	PENTACHLOROPHENOL	UG/L	N-D	N-D	-	6	N-D	N-D
	PHENOL	UG/L	454	44	90	743	500	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	1500	260
	1,2-DICHLOROBENZENE	UG/L	N-D	N-D	-	N-D	230	N-D
	1,3-DICHLOROBENZENE	UG/L	1	5	-	1	N-D	N-D
	1,4-DICHLOROBENZENE	UG/L	9	N-D	99+	9	90	N-D
	FLUORANTHENE	UG/L	N-D	N-D	-	N-D	300	N-D
	NAPHTHALENE	UG/L	19	15	21	21	1600	270
	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	N-D	N-D	-	N-D	110	N-D
	11,12-BENZOFLUORANTHENE	UG/L	N-D	N-D	-	N-D	120	N-D
	CHRYSENE	UG/L	N-D	N-D	-	N-D	84	N-D
	ANTHRACENE	UG/L	N-D	N-D	-	N-D	68	N-D
	FLUORENE	UG/L	N-D	N-D	-	N-D	140	N-D

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 01/03/12
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

DAILY ANALYTICAL RESULTS

CHATTANOOGA

SAMPLE DATE ENDING 81/03/12 0800 HOURS

FRACTION	PARAMETER	UNITS	INFLUENT	SECONDARY EFFLUENT	PERCENT REMOVAL	PRIMARY EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
BASE-NEUTRALS	PHENANTHRENE	UG/L	N-D	N-D	-	N-D	250	N-D
METALS	ANTIMONY	UG/L	L 10	L 10	-	L 10	85	L 80
	ARSENIC	UG/L	L 10	L 10	-	L 10	390	30
	BERYLLIUM	UG/L	L 1	L 1	-	L 1	15	24
	CADMIUM	UG/L	6	L 5	17	L 5	250	100
	CHROMIUM	UG/L	110	40	64	120	15000	11000
	COPPER	UG/L	100	22	78	87	8900	1500
	CYANIDE	UG/L	80	87	-	84	1390	318
	LEAD	UG/L	L 50	L 50	-	L 50	5200	790
	MERCURY	NG/L	300	300	-	400	23000	7000
	NICKEL	UG/L	350	100	71	230	6900	1100
	SILVER	UG/L	8	1	88	8	700	210
	ZINC	UG/L	520	110	79	390	35000	5100
NON-CONV. METALS	ALUMINUM	UG/L	5080	470	91	5460	NOT RUN	NOT RUN
	BARIUM	UG/L	160	27	83	130	NOT RUN	NOT RUN
	BORON	UG/L	190	160	16	200	NOT RUN	NOT RUN
	CALCIUM	MG/L	47	44	6	50	NOT RUN	NOT RUN
	COBALT	UG/L	15	10	33	12	NOT RUN	NOT RUN
	IRON	UG/L	3200	320	90	2650	NOT RUN	NOT RUN
	MAGNESIUM	MG/L	8	8	-	9	NOT RUN	NOT RUN
	MANGANESE	UG/L	300	220	27	310	NOT RUN	NOT RUN
	SODIUM	MG/L	299	369	-	338	NOT RUN	NOT RUN
	VANADIUM	UG/L	8	L 5	38	L 5	NOT RUN	NOT RUN
	YTTRIUM	UG/L	L 5	L 5	-	5	NOT RUN	NOT RUN

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT ON 81/03/12
L=LESS THAN; G=GREATER THAN; T=TRACE; I OR J=INTERFERENCE; U=UNCONFIRMED;
N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800916 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	209916	1800492	94509	50646	1655337
	TOTAL SUSP. SOLIDS	127449	229066	9788	74256	145022
	COD	412335	388891	60754	126616	201519
	OIL & GREASE	30738	18777	675	13928	4174
NON-CONVENTIONALS	TOTAL PHENOLS	303	38.8	27.3	1.1	10.4
	TOTAL SOLIDS	685224	609200	357783	81637	169780
	TOTAL DISS. SOLIDS	469312	379015	314579	10710	53726
	VOLATILE DISS. SOLIDS	86965	95414	49955	7854	37605
	TOTAL VOL. SUS. SOLIDS	79468	153467	4050	47362	102055
	AMMONIA NITROGEN	6747	5758	5063	46.6	648
	TOC	93712	29397	14176	2266	12955
VOLATILES	BENZENE	1.9	-	NOT RUN	L 0.1	N-D
	CHLOROBENZENE	N-D	-	NOT RUN	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	8.6	-	NOT RUN	N-D	N-D
	1,1-DICHLOROETHANE	N-D	-	NOT RUN	L 0.1	N-D
	CHLOROFORM	48.0	-	NOT RUN	L 0.1	.3
	1,2-TRANS-DICHLOROETHYLENE	N-D	-	NOT RUN	.1	N-D
	ETHYLBENZENE	3.7	-	NOT RUN	.9	.2
	METHYLENE CHLORIDE	NOT RUN	-	NOT RUN	L 0.1	N-D
	DICHLOROBROMOMETHANE	N-D	-	NOT RUN	L 0.1	N-D
	DICHLORODIFLUOROMETHANE	N-D	-	NOT RUN	L 0.1	N-D
	TETRACHLOROETHYLENE	34.9	-	NOT RUN	.1	1.8
	TOLUENE	78.7	-	NOT RUN	5.6	1.0
	TRICHLOROETHYLENE	.7	-	NOT RUN	5.6	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	4.1	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	1.1	1.0	1.0	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	2.7	2.7	N-D	N-D
	PENTACHLOROPHENOL	1.9	N-D	N-D	N-D	N-D
	PHENOL	82.5	3.4	3.4	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	56.2	1.0	1.0	N-D	N-D
	1,2-DICHLOROBENZENE	1.9	N-D	N-D	N-D	N-D
	1,3-DICHLOROBENZENE	N-D	.3	N-D	.3	N-D
	1,4-DICHLOROBENZENE	.7	.3	N-D	.3	N-D
	NAPHTHALENE	3.7	1.1	.3	.8	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	2.2	3.6	2.7	.9	N-D
	BUTYL BENZYL PHTHALATE	N-D	1.0	1.0	N-D	N-D
	DI-N-BUTYL PHTHALATE	.7	.7	.7	N-D	N-D
	DIETHYL PHTHALATE	1.1	1.7	1.7	N-D	N-D
	DIMETHYL PHTHALATE	N-D	.7	.7	N-D	N-D
	ANTHRACENE	1.1	N-D	N-D	N-D	N-D
	PHENANTHRENE	1.1	N-D	N-D	N-D	N-D
PESTICIDES	GAMMA-BHC	1.5	N-D	N-D	N-D	N-D
METALS	ANTIMONY	3.4	2.0	2.0	L 0.1	N-D
	ARSENIC	1.9	2.7	1.0	.7	1.0
	BERYLLIUM	.4	N-D	N-D	N-D	N-D

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POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800916 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CADMIUM	3.4	3.6	2.0	.4	1.2
	CHROMIUM	44.6	71.1	3.4	17.3	50.4
	COPPER	37.9	59.0	1.4	22.7	34.9
	CYANIDE	1031	159	43.9	57.2	57.6
	LEAD	47.2	43.6	15.9	17.3	10.4
	MERCURY	N-D	.3	N-D	.1	.2
	NICKEL	39.7	47.5	24.0	5.9	17.6
	SELENIUM	1.5	1.1	1.0	L 0.1	.1
	SILVER	5.2	5.4	1.0	1.9	2.5
	THALLIUM	1.1	.3	.3	N-D	N-D
	ZINC	146	142	40.8	33.3	48.4
NON-CONV. METALS	ALUMINUM	1271	-	227	NOT RUN	NOT RUN
	BARIUM	63.0	-	10.1	NOT RUN	NOT RUN
	BORON	81.7	-	47.9	NOT RUN	NOT RUN
	CALCIUM	14619	-	11139	NOT RUN	NOT RUN
	IRON	832	-	143	NOT RUN	NOT RUN
	MAGNESIUM	3374	-	2363	NOT RUN	NOT RUN
	MANGANESE	75.3	-	50.0	NOT RUN	NOT RUN
	SODIUM	174554	-	108348	NOT RUN	NOT RUN
	TIN	26.2	-	10.8	NOT RUN	NOT RUN
	TITANIUM	7.1	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800917 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	83966	152567	11290	33320	107957
	TOTAL SUSP. SOLIDS	58477	197281	8139	70893	118249
	COD	263894	352846	57764	107957	187125
	OIL & GREASE	22491	20853	788	15927	4138
NON-CONVENTIONALS	TOTAL PHENOLS	105	61.6	45.4	1.7	14.5
	TOTAL SOLIDS	451020	589870	319275	96209	174386
	TOTAL DISS. SOLIDS	350860	383464	300108	6239	77117
	VOLATILE DISS. SOLIDS	86360	97596	78243	2836	16517
	TOTAL VOL. SUS. SOLIDS	35386	166299	4989	48207	113103
	AMMONIA NITROGEN	5098	3578	3151	30.7	396
	TOC	56977	27590	15754	3199	8637
VOLATILES	BENZENE	4.8	.5	.3	L 0.1	L 0.1
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	10.5	.5	.5	N-D	N-D
	1,1-DICHLOROETHANE	N-D	.2	N-D	.2	N-D
	CHLOROFORM	45.0	7.6	7.1	L 0.1	.4
	1,2-TRANS-DICHLOROETHYLENE	1.2	L 0.1	N-D	L 0.1	N-D
	ETHYLBENZENE	11.4	1.2	.3	.8	.1
	METHYLENE CHLORIDE	21.6	9.5	8.1	.2	1.2
	TETRACHLOROETHYLENE	30.0	2.8	.8	1.4	.6
	TOLUENE	69.0	4.7	2.9	.9	.9
	TRICHLOROETHYLENE	1.8	2.2	N-D	2.1	L 0.1
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	.5	.5	N-D	N-D
	2,4-DICHLOROPHENOL	.6	.5	.5	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	2.6	2.6	N-D	N-D
	PENTACHLOROPHENOL	1.2	1.1	1.1	N-D	N-D
	PHENOL	117	11.3	11.3	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	30.0	15.2	1.8	11.1	2.3
	1,2-DICHLOROBENZENE	3.3	.3	.3	N-D	N-D
	1,4-DICHLOROBENZENE	1.2	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	11.1	1.3	1.3	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	5.1	33.0	1.3	14.4	17.3
	BUTYL BENZYL PHTHALATE	2.4	1.5	.5	1.0	N-D
	DI-N-BUTYL PHTHALATE	2.1	1.5	.3	1.2	N-D
	DIETHYL PHTHALATE	2.4	.3	.3	N-D	N-D
	DIMETHYL PHTHALATE	N-D	.3	.3	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.4	N-D	.4	N-D
	CHRYSENE	N-D	.4	N-D	.4	N-D
	ANTHRACENE	N-D	.8	N-D	.8	N-D
	PHENANTHRENE	.9	.8	N-D	.8	N-D
	PYRENE	N-D	.4	N-D	.4	N-D
PESTICIDES	ALPHA-ENDOSULFAN	.3	N-D	N-D	N-D	N-D
	ALPHA-BHC	1.3	N-D	N-D	N-D	N-D
METALS	ANTIMONY	12.6	2.9	1.8	.3	.8

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L=LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800917 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	1.5	1.8	.8	.3	.7
	CADMIUM	2.7	1.4	1.3	L 0.1	N-D
	CHROMIUM	139	73.9	8.7	4.0	61.2
	COPPER	38.1	24.9	N-D	10.5	14.4
	CYANIDE	1451	163	20.5	61.6	80.6
	LEAD	24.3	27.0	N-D	22.7	4.3
	NICKEL	29.4	35.4	24.4	7.6	3.4
	SELENIUM	1.8	.5	.5	N-D	N-D
	SILVER	5.7	6.1	.5	.6	5.0
	THALLIUM	.3	.3	.3	N-D	N-D
	ZINC	122	142	20.5	21.3	101
NON-CONV. METALS	ALUMINUM	1379	-	242	NOT RUN	NOT RUN
	BARIUM	45.6	-	7.4	NOT RUN	NOT RUN
	BORON	64.8	-	198	NOT RUN	NOT RUN
	CALCIUM	12295	-	8665	NOT RUN	NOT RUN
	IRON	705	-	110	NOT RUN	NOT RUN
	MAGNESIUM	2399	-	1838	NOT RUN	NOT RUN
	MANGANESE	45.3	-	31.8	NOT RUN	NOT RUN
	SODIUM	108257	-	96360	NOT RUN	NOT RUN
	TIN	19.5	-	11.0	NOT RUN	NOT RUN
	TITANIUM	4.8	-	N-D	NOT RUN	NOT RUN

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATES ENDING 80/09/17 AND 80/09/18 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	6247	20.7	6268
	TOTAL SUSP. SOLIDS	3787	35.2	3822
	COD	8663	95.0	8758
	OIL & GREASE	423	.7	424
NON-CONVENTIONALS	TOTAL PHENOLS	.3	L 0.1	.3
	TOTAL SOLIDS	6101	350	6451
	TOTAL DISS. SOLIDS	20199	242	20441
	TOTAL VOLATILE SOLIDS	3085	153	3239
	VOLATILE DISS. SOLIDS	505	69.7	575
	TOTAL VOL. SUS. SOLIDS	2524	16.0	2540
	AMMONIA NITROGEN	40.0	12.7	52.7
	TOC	400	25.0	425
VOLATILES	BENZENE	L 0.1	N-D	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	CHLOROETHANE	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	L 0.1	N-D	L 0.1
	METHYLENE CHLORIDE	L 0.1	N-D	L 0.1
	TOLUENE	L 0.1	L 0.1	L 0.1
	VINYL CHLORIDE	L 0.1	N-D	L 0.1
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	L 0.1	L 0.1
	2,4-DICHLOROPHENOL	L 0.1	L 0.1	L 0.1
	PENTACHLOROPHENOL	N-D	L 0.1	L 0.1
	PHENOL	.1	L 0.1	.2
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	.4	L 0.1	.4
	1,2-DICHLOROBENZENE	L 0.1	L 0.1	L 0.1
	1,4-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	FLUORANTHENE	L 0.1	N-D	L 0.1
	NAPHTHALENE	.1	L 0.1	.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	BUTYL BENZYL PHTHALATE	L 0.1	N-D	L 0.1
	DI-N-BUTYL PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-OCTYL PHTHALATE	L 0.1	N-D	L 0.1
	DIETHYL PHTHALATE	L 0.1	L 0.1	L 0.1
	PHENANTHRENE	L 0.1	N-D	L 0.1
	PYRENE	L 0.1	N-D	L 0.1
PESTICIDES	ENDRIN ALDEHYDE	L 0.1	N-D	L 0.1
	DELTA-BHC	L 0.1	N-D	L 0.1
METALS	ANTIMONY	L 0.1	L 0.1	L 0.1
	ARSENIC	.2	L 0.1	.2
	BERYLLIUM	L 0.1	N-D	L 0.1
	CADMIUM	L 0.1	L 0.1	L 0.1
	CHROMIUM	2.1	L 0.1	2.1
	COPPER	2.2	L 0.1	2.2
	CYANIDE	NOT RUN	.7	-
	LEAD	1.7	L 0.1	1.8

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATES ENDING 80/09/17 AND 80/09/18 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
METALS	MERCURY	L 0.1	N-D	L 0.1
	NICKEL	.9	L 0.1	.9
	SELENIUM	L 0.1	L 0.1	L 0.1
	SILVER	.3	L 0.1	.3
	THALLIUM	L 0.1	L 0.1	L 0.1
	ZINC	6.9	L 0.1	7.0
NON-CONV. METALS	ALUMINUM	77.1	.7	77.7
	BARIUM	2.3	L 0.1	2.3
	BORON	.3	L 0.1	.4
	CALCIUM	497	27.5	525
	COBALT	.3	N-D	.3
	IRON	53.5	.5	54.0
	MAGNESIUM	54.1	9.2	63.4
	MANGANESE	3.1	L 0.1	3.2
	MOLYBDENUM	.1	N-D	.1
	SODIUM	282	66.7	349
	TIN	.3	L 0.1	.3
	TITANIUM	.4	L 0.1	.4
	VANADIUM	L 0.1	N-D	L 0.1
	YTTRIUM	.1	L 0.1	.1

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800918 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	211415	208396	15939	41317	151140
	TOTAL SUSP. SOLIDS	139769	202173	18064	56252	127857
	COD	508963	416837	95632	105291	215914
	OIL & GREASE	57943	-	NOT RUN	16593	3239
NON-CONVENTIONALS	TOTAL PHENOLS	235	68.3	52.4	1.4	14.5
	TOTAL SOLIDS	638161	692510	456199	73584	162727
	TOTAL DISS. SOLIDS	442015	511729	430697	9996	71036
	TOTAL VOLATILE SOLIDS	193406	237798	108383	42618	86797
	VOLATILE DISS. SOLIDS	81043	123847	74380	6860	42607
	TOTAL VOL. SUS. SOLIDS	83703	142194	12397	35083	94714
	AMMONIA NITROGEN	7439	5165	4604	21.3	540
	TOC	93962	43646	20189	1866	21591
VOLATILES	BENZENE	10.6	1.3	1.1	.1	.1
	CHLOROBENZENE	.8	.2	N-D	L 0.1	L 0.1
	1,1,1-TRICHLOROETHANE	54.8	.7	.7	N-D	N-D
	1,1-DICHLOROETHANE	1.2	.2	N-D	.2	N-D
	CHLOROFORM	43.1	7.3	6.7	L 0.1	.5
	1,2-TRANS-DICHLOROETHYLENE	.8	L 0.1	N-D	L 0.1	N-D
	ETHYLBENZENE	3.1	.8	N-D	.6	.2
	METHYLENE CHLORIDE	21.5	5.1	4.6	.2	.3
	TRICHLOROFLUOROMETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	DICHLORODIFLUOROMETHANE	N-D	.5	N-D	N-D	.5
	TETRACHLOROETHYLENE	20.0	2.6	.7	1.3	.6
	TOLUENE	NOT RUN	78.4	63.8	8.2	6.4
	TRICHLOROETHYLENE	3.1	1.3	N-D	1.2	L 0.1
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	1.1	1.1	N-D	N-D
	2,4-DICHLOROPHENOL	.8	1.1	1.1	N-D	N-D
	PENTACHLOROPHENOL	2.3	2.5	2.5	N-D	N-D
	PHENOL	164	26.9	26.9	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	2.5	2.5	N-D	N-D
	1,2,4-TRICHLOROBENZENE	29.4	10.8	5.7	5.1	N-D
	1,2-DICHLOROBENZENE	3.9	.7	.7	N-D	N-D
	1,3-DICHLOROBENZENE	N-D	.5	N-D	.5	N-D
	1,4-DICHLOROBENZENE	2.3	.4	N-D	.4	N-D
	FLUORANTHENE	N-D	.5	N-D	.5	N-D
	NAPHTHALENE	47.0	10.0	8.5	1.5	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	7.4	30.9	8.9	8.7	13.3
	BUTYL BENZYL PHTHALATE	1.6	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	2.0	1.1	1.1	N-D	N-D
	DIETHYL PHTHALATE	1.6	.7	.7	N-D	N-D
	PHENANTHRENE	1.6	N-D	N-D	N-D	N-D
	PYRENE	N-D	.6	N-D	.6	N-D
PESTICIDES	GAMMA-BHC	N-D	.5	.5	N-D	N-D
METALS	ANTIMONY	1.6	3.2	2.1	.2	.9
	ARSENIC	2.3	2.4	1.4	.2	.8

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800918 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	N-D	3.2	N-D	N-D	3.2
	CADMIUM	3.5	2.2	2.1	L 0.1	N-D
	CHROMIUM	139	58.4	24.4	6.7	27.3
	COPPER	64.2	22.5	2.8	12.9	6.8
	CYANIDE	1370	213	56.7	60.5	95.4
	LEAD	57.2	50.0	31.9	12.3	5.8
	MERCURY	.8	.2	N-D	.2	N-D
	NICKEL	35.6	32.3	27.6	1.9	2.8
	SELENIUM	.8	1.6	1.4	N-D	.2
	SILVER	12.5	6.3	.7	.9	4.7
	THALLIUM	.4	.4	.4	N-D	N-D
	ZINC	287	185	34.7	66.6	82.8
NON-CONV. METALS	ALUMINUM	3253	-	418	NOT RUN	NOT RUN
	BARIUM	94.7	-	12.8	NOT RUN	NOT RUN
	BORON	76.3	-	131	NOT RUN	NOT RUN
	CALCIUM	10009	-	11680	NOT RUN	NOT RUN
	IRON	2055	-	203	NOT RUN	NOT RUN
	MAGNESIUM	3915	-	2479	NOT RUN	NOT RUN
	MANGANESE	89.7	-	39.3	NOT RUN	NOT RUN
	SODIUM	165217	-	143093	NOT RUN	NOT RUN
	TIN	29.4	-	19.1	NOT RUN	NOT RUN
	TITANIUM	27.4	-	N-D	NOT RUN	NOT RUN
	VANADIUM	1.2	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	2.0	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800919 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	183926	213408	21751	33320	158337
	TOTAL SUSP. SOLIDS	185526	249706	19214	39984	190508
	COD	439824	438438	101506	106624	230308
	OIL & GREASE	52779	15584	1450	9996	4138
NON-CONVENTIONALS	TOTAL PHENOLS	435	91.7	76.1	3.1	12.5
	TOTAL SOLIDS	821271	745632	487954	58318	199360
	TOTAL DISS. SOLIDS	465414	553120	464390	4056	84674
	VOLATILE DISS. SOLIDS	112755	163863	104769	869	58225
	TOTAL VOL. SUS. SOLIDS	94362	189635	14501	26945	148189
	AMMONIA NITROGEN	8796	4883	4350	29.3	504
	TOC	59976	35220	21026	1599	12595
VOLATILES	BENZENE	6.4	.8	.7	N-D	L 0.1
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	3.2	.7	.7	N-D	N-D
	1,1-DICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	14.4	15.0	14.5	L 0.1	.4
	1,2-TRANS-DICHLOROETHYLENE	.4	L 0.1	N-D	L 0.1	N-D
	ETHYLBENZENE	2.4	.5	N-D	.3	.2
	METHYLENE CHLORIDE	23.2	3.0	2.9	L 0.1	N-D
	TETRACHLOROETHYLENE	14.8	1.8	1.1	.1	.6
	TOLUENE	76.0	17.7	13.4	.9	3.4
	TRICHLOROETHYLENE	1.2	.5	N-D	.5	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	.4	.4	.4	N-D	N-D
	PENTACHLOROPHENOL	2.8	N-D	N-D	N-D	N-D
	PHENOL	288	8.9	.4	1.2	7.3
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	64.0	6.3	1.1	5.2	N-D
	1,2-DICHLOROBENZENE	4.8	N-D	N-D	N-D	N-D
	1,3-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,4-DICHLOROBENZENE	3.6	.2	N-D	.2	N-D
	FLUORANTHENE	N-D	.2	N-D	.2	N-D
	NAPHTHALENE	40.0	5.3	1.1	2.1	2.1
	BIS(2-ETHYLHEXYL) PHTHALATE	4.0	15.7	2.5	5.6	7.6
	BUTYL BENZYL PHTHALATE	.8	.8	N-D	.8	N-D
	DI-N-BUTYL PHTHALATE	1.6	1.4	.7	.7	N-D
	DIETHYL PHTHALATE	2.0	2.2	2.2	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.2	N-D	.2	N-D
	CHRYSENE	N-D	.2	N-D	.2	N-D
	ANTHRACENE	N-D	2.5	N-D	.8	1.7
	PHENANTHRENE	1.2	3.2	.7	.8	1.7
	PYRENE	N-D	.2	N-D	.2	N-D
PESTICIDES	GAMMA-BHC	.8	N-D	N-D	N-D	N-D
METALS	ANTIMONY	1.6	.9	.4	.1	.4
	ARSENIC	7.2	2.5	1.5	.2	.8
	BERYLLIUM	.4	N-D	N-D	N-D	N-D
	CADMIUM	4.0	2.5	2.5	N-D	N-D

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800919 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM .	99.6	73.1	20.3	2.4	50.4
	COPPER	49.6	26.3	4.4	6.8	15.1
	CYANIDE	1807	231	37.7	59.7	133
	LEAD	65.6	69.3	26.8	17.3	25.2
	MERCURY	N-D	.3	N-D	N-D	.3
	NICKEL	49.2	30.9	23.9	1.6	5.4
	SELENIUM	.8	2.0	1.8	N-D	.2
	SILVER	9.6	7.7	1.5	.4	5.8
	THALLIUM	.4	.4	.4	N-D	N-D
	ZINC	210	211	27.9	32.0	151
NON-CONV. METALS	ALUMINUM	6038	-	410	NOT RUN	NOT RUN
	BARIUM	85.2	-	13.8	NOT RUN	NOT RUN
	BORON	73.2	-	94.6	NOT RUN	NOT RUN
	CALCIUM	22391	-	12688	NOT RUN	NOT RUN
	COBALT	34.8	-	19.6	NOT RUN	NOT RUN
	IRON	3647	-	229	NOT RUN	NOT RUN
	MAGNESIUM	4798	-	2900	NOT RUN	NOT RUN
	MANGANESE	99.6	-	39.2	NOT RUN	NOT RUN
	MOLYBDENUM	16.4	-	N-D	NOT RUN	NOT RUN
	SODIUM	164334	-	150446	NOT RUN	NOT RUN
	TIN	23.2	-	23.6	NOT RUN	NOT RUN
	TITANIUM	42.4	-	1.1	NOT RUN	NOT RUN
	VANADIUM	6.4	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	3.6	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800920 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	153938	176593	17190	22658	136745
	TOTAL SUSP. SOLIDS	126649	226843	13752	55978	157113
	COD	283387	346708	71885	73304	201519
	OIL & GREASE	21341	16311	1250	7864	7197
NON-CONVENTIONALS	TOTAL PHENOLS	476	199	176	3.4	19.5
	TOTAL SOLIDS	379248	614729	372549	69953	172227
	TOTAL DISS. SOLIDS	242103	414465	321918	6397	86150
	TOTAL VOLATILE SOLIDS	94462	202122	69384	36225	96513
	VOLATILE DISS. SOLIDS	28339	101796	57508	3732	40556
	TOTAL VOL. SUS. SOLIDS	82217	148350	11251	30454	106445
	AMMONIA NITROGEN	8047	4959	4376	42.6	540
	TOC	48980	39492	15002	1999	22491
VOLATILES	BENZENE	3.8	.4	.3	N-D	L 0.1
	CHLOROBENZENE	.7	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	3.5	N-D	N-D	N-D	N-D
	CHLOROFORM	6.6	4.9	4.7	N-D	.2
	1,2-TRANS-DICHLOROETHYLENE	1.0	.2	N-D	.2	N-D
	ETHYLBENZENE	13.6	1.1	.6	.3	.2
	METHYLENE CHLORIDE	2.1	1.6	1.6	L 0.1	N-D
	TETRACHLOROETHYLENE	59.5	1.7	.9	N-D	.8
	TOLUENE	199	13.1	10.9	.7	1.5
	TRICHLOROETHYLENE	11.5	.4	N-D	L 0.1	.3
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	1.0	.6	.6	N-D	N-D
	2,4-DICHLOROPHENOL	.7	N-D	N-D	N-D	N-D
	PENTACHLOROPHENOL	3.1	1.3	1.3	N-D	N-D
	PHENOL	238	4.7	4.7	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.6	.6	N-D	N-D
	1,2,4-TRICHLOROBENZENE	18.2	7.0	3.1	3.9	N-D
	1,2-DICHLOROBENZENE	1.4	N-D	N-D	N-D	N-D
	1,3-DICHLOROBENZENE	.7	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	1.0	.3	N-D	.3	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	15.4	3.7	1.3	2.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	5.2	16.2	.6	8.1	7.5
	BUTYL BENZYL PHTHALATE	.7	1.1	N-D	1.1	N-D
	DI-N-BUTYL PHTHALATE	1.0	1.3	.3	1.0	N-D
	DIETHYL PHTHALATE	3.5	.3	.3	N-D	N-D
	ANTHRACENE	N-D	.7	N-D	.7	N-D
	PHENANTHRENE	.7	.7	N-D	.7	N-D
	PYRENE	N-D	.3	N-D	.3	N-D
METALS	ANTIMONY	2.8	2.6	1.6	L 0.1	.9
	ARSENIC	4.2	3.2	1.9	.4	.9
	BERYLLIUM	N-D	3.1	N-D	.4	2.7
	CADMIUM	3.5	1.6	1.6	N-D	N-D
	CHROMIUM	45.5	46.4	12.5	8.0	25.9
	COPPER	43.7	32.6	6.3	11.9	14.4

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800920 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CYANIDE	2652	169	22.5	52.5	92.8
	LEAD	53.2	70.6	25.3	18.7	26.6
	MERCURY	N-D	.3	N-D	N-D	.3
	NICKEL	49.0	43.5	32.2	1.9	9.4
	SELENIUM	1.0	.8	.6	N-D	.2
	SILVER	8.0	8.4	.6	1.3	6.5
	THALLIUM	.3	.6	.6	N-D	N-D
	ZINC	166	218	28.1	38.7	151
NON-CONV. METALS	ALUMINUM	2652	-	279	NOT RUN	NOT RUN
	BARIUM	52.5	-	10.6	NOT RUN	NOT RUN
	BORON	101	-	68.4	NOT RUN	NOT RUN
	CALCIUM	14694	-	11564	NOT RUN	NOT RUN
	COBALT	20.3	-	N-D	NOT RUN	NOT RUN
	IRON	1550	-	176	NOT RUN	NOT RUN
	MAGNESIUM	2799	-	2500	NOT RUN	NOT RUN
	MANGANESE	113	-	34.7	NOT RUN	NOT RUN
	MOLYBDENUM	13.3	-	N-D	NOT RUN	NOT RUN
	SODIUM	83966	-	111577	NOT RUN	NOT RUN
	TIN	24.1	-	24.4	NOT RUN	NOT RUN
	TITANIUM	16.1	-	N-D	NOT RUN	NOT RUN
	VANADIUM	2.8	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	1.7	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800921 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	101709	116127	10836	33320	71971
	TOTAL SUSP. SOLIDS	75203	195764	5147	41809	148728
	COD	203419	261613	40634	62642	158337
	OIL & GREASE	12328	17193	N-D	9996	7197
NON-CONVENTIONALS	TOTAL PHENOLS	268	37.7	28.7	1.6	7.4
	TOTAL SOLIDS	302046	455549	240552	56660	158337
	TOTAL DISS. SOLIDS	215747	248249	183664	2222	62363
	TOTAL VOLATILE SOLIDS	96162	160510	40092	29015	91403
	VOLATILE DISS. SOLIDS	32978	74338	25735	634	47969
	TOTAL VOL. SUS. SOLIDS	54861	142019	4334	22531	115154
	AMMONIA NITROGEN	6781	3213	2709	36.0	468
	TOC	40067	33429	8939	1999	22491
VOLATILES	BENZENE	1.8	.4	.3	N-D	.1
	CHLOROBENZENE	.6	N-D	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	12.9	.5	.5	N-D	N-D
	1,1-DICHLOROETHANE	N-D	.1	N-D	.1	N-D
	CHLOROFORM	5.2	5.2	5.1	N-D	.1
	1,2-TRANS-DICHLOROETHYLENE	.6	.2	N-D	.2	N-D
	ETHYLBENZENE	NOT RUN	1.2	.8	.2	.2
	METHYLENE CHLORIDE	2.8	1.6	1.6	L 0.1	N-D
	TETRACHLOROETHYLENE	10.8	.8	.3	N-D	.5
	TOLUENE	213	6.0	4.3	.4	1.3
	TRICHLOROETHYLENE	1.8	.4	.3	N-D	L 0.1
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	.9	.5	.5	N-D	N-D
	2,4-DICHLOROPHENOL	N-D	.3	.3	N-D	N-D
	PENTACHLOROPHENOL	2.2	.8	.8	N-D	N-D
	PHENOL	80.1	1.6	1.6	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.5	.5	N-D	N-D
	1,2,4-TRICHLOROBENZENE	20.0	5.6	2.4	2.0	1.2
	1,2-DICHLOROBENZENE	.3	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	.6	.2	N-D	.2	N-D
	FLUORANTHENE	.3	.2	N-D	.2	N-D
	NAPHTHALENE	6.2	3.5	2.7	.8	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	4.6	17.3	.5	4.9	11.9
	BUTYL BENZYL PHTHALATE	.9	.9	N-D	.9	N-D
	DI-N-BUTYL PHTHALATE	1.2	.9	.3	.6	N-D
	DIETHYL PHTHALATE	1.2	.3	.3	N-D	N-D
	ANTHRACENE	N-D	.5	N-D	.5	N-D
	PHENANTHRENE	1.5	.5	N-D	.5	N-D
	PYRENE	.6	.3	N-D	.3	N-D
PESTICIDES	ALPHA-ENDOSULFAN	.8	N-D	N-D	N-D	N-D
METALS	ANTIMONY	1.2	3.3	2.2	L 0.1	1.0
	ARSENIC	1.5	2.1	1.1	.2	.8
	BERYLLIUM	N-D	.3	N-D	.3	N-D
	CADMIUM	3.1	2.0	1.9	.1	N-D

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 800921 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	12.6	59.0	6.2	6.0	46.8
	COPPER	29.9	27.1	4.9	8.5	13.7
	CYANIDE	1624	186	39.3	58.4	89.2
	LEAD	45.6	74.5	24.1	10.8	39.6
	MERCURY	N-D	.3	N-D	N-D	.3
	NICKEL	9.6	27.8	21.1	1.3	5.4
	SELENIUM	.6	.9	.5	N-D	.4
	SILVER	4.9	8.7	.3	1.9	6.5
	THALLIUM	.3	.3	.3	N-D	N-D
	ZINC	120	257	27.6	53.3	176
NON-CONV. METALS	ALUMINUM	1541	-	96.7	NOT RUN	NOT RUN
	BARIUM	34.8	-	7.0	NOT RUN	NOT RUN
	BORON	74.6	-	39.0	NOT RUN	NOT RUN
	CALCIUM	11712	-	11107	NOT RUN	NOT RUN
	COBALT	N-D	-	22.8	NOT RUN	NOT RUN
	IRON	687	-	98.3	NOT RUN	NOT RUN
	MAGNESIUM	2466	-	2167	NOT RUN	NOT RUN
	MANGANESE	60.1	-	40.9	NOT RUN	NOT RUN
	SODIUM	72429	-	67181	NOT RUN	NOT RUN
	TIN	19.1	-	17.3	NOT RUN	NOT RUN
	TITANIUM	6.5	-	N-D	NOT RUN	NOT RUN
	VANADIUM	.9	-	.5	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810211 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	84759	100086	9306	8013	82767
	TOTAL SUSP. SOLIDS	58595	208750	5650	6259	196841
	COD	117926	395458	53179	18409	323870
	OIL & GREASE	6633	19359	2327	2458	14574
NON-CONVENTIONALS	TOTAL PHENOLS	129	30.2	24.3	.5	5.4
	TOTAL SOLIDS	262017	460332	246949	6909	214474
	TOTAL DISS. SOLIDS	203423	259648	241298	645	17705
	TOTAL VOLATILE SOLIDS	86233	192385	42211	4072	146102
	VOLATILE DISS. SOLIDS	51593	42980	37890	412	4678
	TOTAL VOL. SUS. SOLIDS	34641	149404	4321	3660	141423
	AMMONIA NITROGEN	1474	1298	997	13.0	288
	TOC	60176	60146	18613	1949	39584
VOLATILES	BENZENE	6.6	2.0	2.0	N-D	N-D
	1,1,1-TRICHLOROETHANE	N-D	.1	N-D	L 0.1	.1
	CHLOROFORM	35.4	20.8	19.9	L 0.1	.8
	ETHYLBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	162	8.0	8.0	N-D	N-D
	TETRACHLOROETHYLENE	8.1	1.8	1.0	L 0.1	.7
	TOLUENE	59.0	6.2	6.0	.2	N-D
	TRICHLOROETHYLENE	2.2	.1	N-D	L 0.1	.1
ACID EXTRACT	2,4-DICHLOROPHENOL	1.1	.7	.7	N-D	N-D
	PENTACHLOROPHENOL	4.1	5.4	N-D	N-D	5.4
	PHENOL	11.1	56.7	56.5	.2	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.7	.7	N-D	N-D
	1,2,4-TRICHLOROBENZENE	N-D	1.7	N-D	.2	1.5
	1,3-DICHLOROBENZENE	.4	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	6.3	1.2	N-D	.2	1.0
	BIS(2-ETHYLHEXYL) PHTHALATE	5.5	2.9	2.0	.9	N-D
	BUTYL BENZYL PHTHALATE	N-D	.3	N-D	.3	N-D
	DI-N-BUTYL PHTHALATE	N-D	1.0	1.0	N-D	N-D
	DIETHYL PHTHALATE	N-D	1.0	1.0	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.3	N-D	.3	N-D
	BENZO (A)PYRENE	N-D	.8	N-D	.8	N-D
	11,12-BENZOFLUORANTHENE	N-D	.2	N-D	.2	N-D
	CHRYSENE	N-D	.3	N-D	.3	N-D
	ANTHRACENE	N-D	L 0.1	N-D	L 0.1	N-D
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	N-D	L 0.1	N-D	L 0.1	N-D
	ARSENIC	N-D	3.1	N-D	.2	2.9
	BERYLLIUM	N-D	1.1	N-D	L 0.1	1.1
	CADMIUM	N-D	3.1	N-D	.2	2.9
	CHROMIUM	103	477	23.3	21.7	432
	COPPER	40.5	59.8	10.6	6.0	43.2

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810211 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CYANIDE	10.0	17.7	16.6	.6	.5
	LEAD	35.7	36.0	N-D	2.9	33.1
	MERCURY	.2	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	52.7	28.9	2.9	20.9
	SILVER	2.2	8.5	.3	.6	7.6
	ZINC	306	209	39.9	20.6	148
NON-CONV. METALS	ALUMINUM	1725	-	123	NOT RUN	NOT RUN
	BARIUM	31.0	-	7.0	NOT RUN	NOT RUN
	BORON	11.1	-	25.6	NOT RUN	NOT RUN
	CALCIUM	14004	-	13295	NOT RUN	NOT RUN
	COBALT	4.4	-	3.0	NOT RUN	NOT RUN
	IRON	1677	-	123	NOT RUN	NOT RUN
	MAGNESIUM	2211	-	1994	NOT RUN	NOT RUN
	MANGANESE	77.4	-	63.1	NOT RUN	NOT RUN
	SODIUM	43854	-	68135	NOT RUN	NOT RUN
	VANADIUM	2.9	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810212 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	76888	119719	7364	7997	104358
	TOTAL SUSP. SOLIDS	55440	266149	7732	18393	240024
	COD	133542	331576	31296	15994	284286
	OIL & GREASE	12949	18104	1473	3172	13459
NON-CONVENTIONALS	TOTAL PHENOLS	194	9.6	7.4	.4	1.8
	TOTAL SOLIDS	322928	508122	229388	18924	259816
	TOTAL DISS. SOLIDS	267488	241916	221648	548	19720
	TOTAL VOLATILE SOLIDS	95907	215223	30191	18862	174170
	VOLATILE DISS. SOLIDS	61510	29958	24300	260	5398
	TOTAL VOL. SUS. SOLIDS	34397	185259	5891	10596	168772
	AMMONIA NITROGEN	2428	523	368	10.7	144
	TOC	66771	55577	14727	1266	39584
VOLATILES	BENZENE	8.1	1.1	1.1	L 0.1	N-D
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	23.5	23.3	22.5	L 0.1	.7
	ETHYLBENZENE	N-D	.1	N-D	L 0.1	.1
	METHYLENE CHLORIDE	97.1	32.8	32.8	L 0.1	N-D
	TETRACHLOROETHYLENE	5.3	.6	.4	L 0.1	.2
	TOLUENE	N-D	L 0.1	N-D	L 0.1	N-D
	TRICHLOROETHYLENE	1.6	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	2.0	1.1	1.1	N-D	N-D
	PHENOL	11.3	.7	.7	N-D	N-D
BASE-NEUTRALS	1,3-DICHLOROBENZENE	.8	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	6.9	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	3.6	7.4	7.4	N-D	N-D
	DIMETHYL PHTHALATE	N-D	3.7	3.7	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.2	N-D	.2	N-D
	BENZO (A)PYRENE	N-D	.1	N-D	.1	N-D
	11,12-BENZOFLUORANTHENE	N-D	.2	N-D	.2	N-D
	CHRYSENE	N-D	.2	N-D	.2	N-D
	ACENAPHTHYLENE	N-D	L 0.1	N-D	L 0.1	N-D
	ANTHRACENE	N-D	L 0.1	N-D	L 0.1	N-D
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	PYRENE	N-D	.3	N-D	.3	N-D
METALS	ANTIMONY	N-D	.8	N-D	L 0.1	.7
	ARSENIC	N-D	4.0	N-D	.4	3.6
	BERYLLIUM	N-D	1.1	N-D	.1	1.0
	CADMIUM	N-D	2.7	N-D	.2	2.5
	CHROMIUM	30.4	289	16.6	13.3	259
	COPPER	34.4	46.3	6.6	7.3	32.4
	CYANIDE	10.5	15.5	7.4	.2	7.9
	LEAD	N-D	26.7	N-D	4.4	22.3
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810212 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	NICKEL	76.9	21.7	N-D	4.4	17.3
	SILVER	1.2	6.2	.4	.4	5.4
	ZINC	158	171	25.0	24.0	122
NON-CONV. METALS	ALUMINUM	1566	-	162	NOT RUN	NOT RUN
	BARIUM	26.3	-	8.1	NOT RUN	NOT RUN
	BORON	24.7	-	17.7	NOT RUN	NOT RUN
	CALCIUM	17806	-	15832	NOT RUN	NOT RUN
	COBALT	2.4	-	2.2	NOT RUN	NOT RUN
	IRON	1214	-	122	NOT RUN	NOT RUN
	MAGNESIUM	2833	-	2209	NOT RUN	NOT RUN
	MANGANESE	101	-	66.3	NOT RUN	NOT RUN
	SODIUM	60701	-	59646	NOT RUN	NOT RUN
	TITANIUM	N-D	-	31.3	NOT RUN	NOT RUN
	VANADIUM	2.0	-	N-D	NOT RUN	NOT RUN

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810212 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	541	17.5	559
	TOTAL SUSP. SOLIDS	245	157	402
	COD	416	85.0	501
	OIL & GREASE	30.8	6.0	36.8
NON-CONVENTIONALS	TOTAL PHENOLS	L 0.1	L 0.1	L 0.1
	TOTAL SOLIDS	929	507	1436
	TOTAL DISS. SOLIDS	683	350	1033
	TOTAL VOLATILE SOLIDS	306	79.5	385
	VOLATILE DISS. SOLIDS	153	30.0	183
	TOTAL VOL. SUS. SOLIDS	152	49.5	202
	AMMONIA NITROGEN	42.5	20.0	62.5
	TOC	140	48.7	188
VOLATILES	BENZENE	L 0.1	L 0.1	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	1,1-DICHLOROETHANE	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	.2	N-D	.2
	METHYLENE CHLORIDE	L 0.1	L 0.1	L 0.1
	TOLUENE	L 0.1	L 0.1	L 0.1
ACID EXTRACT	PHENOL	L 0.1	L 0.1	L 0.1
BASE-NEUTRALS	1,3-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,2-DIPHENYLHYDRAZINE	N-D	L 0.1	L 0.1
	NAPHTHALENE	L 0.1	L 0.1	L 0.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	DIETHYL PHTHALATE	L 0.1	L 0.1	L 0.1
	ANTHRACENE	L 0.1	L 0.1	L 0.1
	FLUORENE	N-D	L 0.1	L 0.1
	PHENANTHRENE	L 0.1	L 0.1	L 0.1
	1,2;5,6-DIBENZANTHRACENE	L 0.1	N-D	L 0.1
METALS	CADMIUM	L 0.1	N-D	L 0.1
	CHROMIUM	.2	L 0.1	.3
	COPPER	L 0.1	L 0.1	.1
	CYANIDE	L 0.1	L 0.1	L 0.1
	LEAD	L 0.1	L 0.1	.1
	MERCURY	L 0.1	L 0.1	L 0.1
	NICKEL	L 0.1	L 0.1	L 0.1
	SILVER	L 0.1	L 0.1	L 0.1
	ZINC	.3	.2	.5
NON-CONV. METALS	ALUMINUM	5.6	2.9	8.5
	BARIUM	.1	L 0.1	.2
	BORON	L 0.1	L 0.1	.1
	CALCIUM	120	73.5	194
	COBALT	L 0.1	L 0.1	L 0.1
	IRON	3.5	2.5	6.0
	MAGNESIUM	14.6	8.7	23.3
	MANGANESE	.9	.5	1.5

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810212 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
NON-CONV. METALS	SODIUM	104	64.0	168
	VANADIUM	L 0.1	L 0.1	L 0.1
	YTTRIUM	L 0.1	L 0.1	.1

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810213 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	96466	115382	8042	10179	97161
	TOTAL SUSP. SOLIDS	117017	276958	8042	33570	235346
	COD	243261	417291	38293	22741	356257
	OIL & GREASE	31456	20096	2681	3920	13495
NON-CONVENTIONALS	TOTAL PHENOLS	390	76.7	68.9	1.5	6.3
	TOTAL SOLIDS	478134	573786	281836	34653	257297
	TOTAL DISS. SOLIDS	359858	296704	273795	1030	21879
	TOTAL VOLATILE SOLIDS	148473	278764	92669	16243	169852
	VOLATILE DISS. SOLIDS	72978	92592	86542	292	5758
	TOTAL VOL. SUS. SOLIDS	75495	186140	6127	15919	164094
	AMMONIA NITROGEN	4194	1869	1532	13.0	324
	TOC	90174	88370	17615	2382	68373
VOLATILES	BENZENE	10.9	2.1	1.9	L 0.1	.2
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	L 0.1
	1,1,1-TRICHLOROETHANE	4.6	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	25.6	12.1	11.1	.1	.9
	ETHYLBENZENE	4.6	.4	N-D	L 0.1	.4
	METHYLENE CHLORIDE	16.8	9.3	8.4	N-D	.9
	TETRACHLOROETHYLENE	7.5	1.0	.8	L 0.1	.2
	TOLUENE	671	70.0	49.8	2.2	18.0
	TRICHLOROETHYLENE	5.0	1.0	.8	L 0.1	.2
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	.4	N-D	N-D	N-D	N-D
	2-CHLOROPHENOL	10.1	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	4.6	N-D	N-D	N-D	N-D
	PENTACHLOROPHENOL	2.1	N-D	N-D	N-D	N-D
	PHENOL	101	1.9	1.9	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	8.0	6.3	3.1	1.0	2.2
	1,3-DICHLOROBENZENE	N-D	2.3	2.3	N-D	N-D
	FLUORANTHENE	N-D	.2	N-D	.2	N-D
	NAPHTHALENE	N-D	1.5	1.1	.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	2.1	2.7	1.1	1.6	N-D
	1,2-BENZANTHRACENE	N-D	.1	N-D	.1	N-D
	BENZO (A)PYRENE	N-D	L 0.1	N-D	L 0.1	N-D
	11,12-BENZOFLUORANTHENE	N-D	.1	N-D	.1	N-D
	CHRYSENE	N-D	.1	N-D	.1	N-D
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	N-D	.8	N-D	L 0.1	.7
	ARSENIC	N-D	4.3	N-D	.7	3.6
	BERYLLIUM	N-D	1.4	N-D	L 0.1	1.4
	CADMIUM	N-D	3.8	N-D	.2	3.6
	CHROMIUM	33.1	345	15.3	13.0	317
	COPPER	25.2	56.8	7.3	6.3	43.2
	CYANIDE	10.9	24.7	13.8	1.3	9.6
	LEAD	N-D	31.1	N-D	3.4	27.7

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810213 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	31.9	30.5	N-D	3.9	26.6
	SILVER	2.9	7.4	.4	.5	6.5
	ZINC	155	231	46.0	27.1	158
NON-CONV. METALS	ALUMINUM	1925	-	165	NOT RUN	NOT RUN
	BARIUM	33.6	-	9.2	NOT RUN	NOT RUN
	BORON	27.3	-	23.0	NOT RUN	NOT RUN
	CALCIUM	18874	-	17232	NOT RUN	NOT RUN
	COBALT	2.5	-	1.9	NOT RUN	NOT RUN
	IRON	1359	-	126	NOT RUN	NOT RUN
	MAGNESIUM	2936	-	2681	NOT RUN	NOT RUN
	MANGANESE	126	-	72.8	NOT RUN	NOT RUN
	SODIUM	90594	-	80032	NOT RUN	NOT RUN
	TITANIUM	N-D	-	25.7	NOT RUN	NOT RUN
	VANADIUM	3.4	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810214 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	102084	122728	13338	15827	93563
	TOTAL SUSP. SOLIDS	84730	334511	6366	60689	259456
	COD	251808	368762	25766	44316	298680
	OIL & GREASE	27903	25626	1819	4843	18964
NON-CONVENTIONALS	TOTAL PHENOLS	442	25.8	18.2	2.2	5.4
	TOTAL SOLIDS	425351	625871	270997	70588	284286
	TOTAL DISS. SOLIDS	339600	291241	264631	1852	24758
	TOTAL VOLATILE SOLIDS	98001	237205	36072	29122	172011
	VOLATILE DISS. SOLIDS	55806	38382	31525	380	6477
	TOTAL VOL. SUS. SOLIDS	42195	198886	4547	28805	165534
	AMMONIA NITROGEN	3403	2815	2425	30.1	360
	TOC	102084	101194	17278	4748	79168
VOLATILES	BENZENE	2.7	.7	.6	L 0.1	L 0.1
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	2.7	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	20.4	9.5	9.1	.1	.3
	1,2-TRANS-DICHLOROETHYLENE	.3	N-D	N-D	N-D	N-D
	ETHYLBENZENE	5.4	.1	N-D	L 0.1	L 0.1
	METHYLENE CHLORIDE	15.3	8.5	8.5	N-D	N-D
	TETRACHLOROETHYLENE	6.1	1.3	1.2	L 0.1	N-D
	TOLUENE	54.4	5.5	4.5	.7	.3
	TRICHLOROETHYLENE	2.7	.8	.3	L 0.1	.5
ACID EXTRACT	2-CHLOROPHENOL	.3	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	N-D	.6	.6	N-D	N-D
	2,4-DIMETHYLPHENOL	1.4	.6	.6	N-D	N-D
	PHENOL	1.4	2.1	1.2	.9	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	2.0	3.4	N-D	1.2	2.2
	FLUORANTHENE	N-D	4.5	N-D	.2	4.3
	4-CHLOROPHENYL PHENYL ETHER	N-D	.2	N-D	.2	N-D
	NAPHTHALENE	4.4	1.0	.6	.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	N-D	L 0.1	N-D	N-D	L 0.1
	DIETHYL PHTHALATE	N-D	1.7	N-D	1.7	N-D
	1,2-BENZANTHRACENE	N-D	2.4	N-D	N-D	2.4
	11,12-BENZOFLUORANTHENE	N-D	1.4	N-D	N-D	1.4
	CHRYSENE	N-D	2.2	N-D	N-D	2.2
	ANTHRACENE	N-D	1.6	N-D	N-D	1.6
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	1.6	N-D	.2	1.4
	PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	N-D	1.6	N-D	.2	1.4
	ARSENIC	N-D	6.6	N-D	1.9	4.7
	BERYLLIUM	N-D	1.4	N-D	.1	1.3
	CADMIUM	N-D	3.9	N-D	.3	3.6
	CHROMIUM	44.2	393	36.4	39.6	317
	COPPER	27.2	82.3	23.3	12.2	46.8
	CYANIDE	40.2	118	105	1.0	11.9

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810214 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	LEAD	N-D	47.2	N-D	7.6	39.6
	MERCURY	.3	L 0.1	N-D	L 0.1	N-D
	NICKEL	34.0	40.0	23.3	6.5	30.2
	SELENIUM	N-D	L 0.1	N-D	L 0.1	N-D
	SILVER	3.4	9.5	.3	.9	8.3
	ZINC	143	277	42.4	61.7	173
NON-CONV. METALS	ALUMINUM	3294	-	139	NOT RUN	NOT RUN
	BARIUM	37.4	-	7.6	NOT RUN	NOT RUN
	BORON	40.8	-	48.5	NOT RUN	NOT RUN
	CALCIUM	15653	-	13338	NOT RUN	NOT RUN
	COBALT	2.7	-	2.7	NOT RUN	NOT RUN
	IRON	1450	-	258	NOT RUN	NOT RUN
	MAGNESIUM	2722	-	2425	NOT RUN	NOT RUN
	MANGANESE	116	-	63.7	NOT RUN	NOT RUN
	SODIUM	95619	-	82148	NOT RUN	NOT RUN
	TITANIUM	N-D	-	17.3	NOT RUN	NOT RUN
	VANADIUM	2.4	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810215 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	90006	56477	19407	6014	31056
	TOTAL SUSP. SOLIDS	56164	279945	7116	32445	240384
	COD	212413	396060	45284	26906	323870
	OIL & GREASE	10801	25280	2264	3260	19756
NON-CONVENTIONALS	TOTAL PHENOLS	414	33.7	25.9	2.8	5.0
	TOTAL SOLIDS	446428	629318	333157	34186	261975
	TOTAL DISS. SOLIDS	388824	346669	323454	1804	21411
	TOTAL VOLATILE SOLIDS	107647	336358	188897	18992	128469
	VOLATILE DISS. SOLIDS	64804	191321	184369	475	6477
	TOTAL VOL. SUS. SOLIDS	42843	145037	4528	18518	121991
	AMMONIA NITROGEN	6120	3875	3235	28.5	612
	TOC	100806	53341	24582	2849	25910
VOLATILES	BENZENE	3.2	.6	.6	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	1.8	L 0.1	N-D	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	.1	N-D	N-D	.1
	CHLOROFORM	19.8	11.8	10.7	.1	1.0
	ETHYLBENZENE	N-D	.7	.6	L 0.1	N-D
	METHYLENE CHLORIDE	50.4	15.2	15.2	N-D	N-D
	TETRACHLOROETHYLENE	7.6	1.7	1.3	L 0.1	.3
	TOLUENE	79.2	7.5	6.5	.3	.7
	TRICHLOROETHYLENE	3.6	1.6	1.3	L 0.1	.2
ACID EXTRACT	2,4-DICHLOROPHENOL	.7	.3	.3	N-D	N-D
	PHENOL	148	7.3	6.5	.8	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	N-D	2.2	N-D	N-D	2.2
	FLUORANTHENE	N-D	L 0.1	N-D	L 0.1	N-D
	NAPHTHALENE	4.0	.2	N-D	.2	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.1	3.6	3.6	N-D	N-D
	DIETHYL PHTHALATE	1.4	N-D	N-D	N-D	N-D
	ACENAPHTHYLENE	.4	N-D	N-D	N-D	N-D
	ANTHRACENE	.4	N-D	N-D	N-D	N-D
	PHENANTHRENE	.4	N-D	N-D	N-D	N-D
METALS	ANTIMONY	N-D	1.5	N-D	L 0.1	1.4
	ARSENIC	N-D	7.5	N-D	.7	6.8
	BERYLLIUM	N-D	1.1	N-D	L 0.1	1.0
	CADMIUM	N-D	2.4	N-D	.2	2.2
	CHROMIUM	50.4	308	11.0	13.5	284
	COPPER	28.8	67.8	13.6	7.4	46.8
	CYANIDE	6.8	26.0	14.6	.6	10.8
	LEAD	N-D	35.2	N-D	4.6	30.6
	NICKEL	23.8	51.4	18.8	3.5	29.1
	SILVER	.7	8.3	.3	.4	7.6
	ZINC	82.8	207	38.8	28.5	140
NON-CONV. METALS	ALUMINUM	945	-	171	NOT RUN	NOT RUN
	BARIUM	26.3	-	8.4	NOT RUN	NOT RUN
	BORON	39.6	-	38.8	NOT RUN	NOT RUN

* TOTAL MASS OUT IS NOT ADJUSTED BY MASS CONTAINED IN RETURN FLOWS
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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810215 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	CALCIUM	16561	-	14879	NOT RUN	NOT RUN
	COBALT	2.2	-	2.6	NOT RUN	NOT RUN
	IRON	648	-	149	NOT RUN	NOT RUN
	MAGNESIUM	3240	-	2911	NOT RUN	NOT RUN
	MANGANESE	97.2	-	77.6	NOT RUN	NOT RUN
	SODIUM	86765	-	90244	NOT RUN	NOT RUN
	TITANIUM	22.0	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810216 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	41837	42984	6513	5523	30948
	TOTAL SUSP. SOLIDS	41837	213149	4258	19967	188924
	COD	97428	317265	32563	18409	266293
	OIL & GREASE	4298	26018	N-D	7845	18173
NON-CONVENTIONALS	TOTAL PHENOLS	215	12.2	8.3	1.6	2.3
	TOTAL SOLIDS	224370	416785	187111	20958	208716
	TOTAL DISS. SOLIDS	182534	203811	182853	986	19972
	TOTAL VOLATILE SOLIDS	56737	176776	29807	12023	134946
	VOLATILE DISS. SOLIDS	30375	32960	27052	510	5398
	TOTAL VOL. SUS. SOLIDS	26363	143816	2755	11513	129548
	AMMONIA NITROGEN	3152	2653	2004	36.8	612
	TOC	40117	29480	12023	1983	15474
VOLATILES	BENZENE	3.4	.8	.8	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	1.4	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	9.7	8.5	7.5	.3	.7
	1,2-TRANS-DICHLOROETHYLENE	.6	N-D	N-D	N-D	N-D
	ETHYLBENZENE	2.6	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	7.2	205	205	N-D	N-D
	TETRACHLOROETHYLENE	3.4	.1	N-D	L 0.1	.1
	TOLUENE	77.4	5.0	3.8	.7	.5
	TRICHLOROETHYLENE	2.3	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	.9	N-D	N-D	N-D	N-D
	PENTACHLOROPHENOL	N-D	L 0.1	N-D	L 0.1	N-D
	PHENOL	60.2	2.7	2.3	.4	N-D
BASE-NEUTRALS	ACENAPHTHENE	.3	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	1.7	2.1	N-D	.2	1.9
	1,3-DICHLOROBENZENE	.6	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.2	N-D	.2	N-D
	BIS(2-CHLOROETHYOXY) METHANE	5.4	N-D	N-D	N-D	N-D
	NAPHTHALENE	6.6	.3	N-D	.3	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	2.6	N-D	N-D	N-D	N-D
	ACENAPHTHYLENE	.6	N-D	N-D	N-D	N-D
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.1	N-D	.1	N-D
METALS	ANTIMONY	N-D	.8	N-D	.1	.7
	ARSENIC	N-D	5.5	N-D	1.2	4.3
	BERYLLIUM	N-D	.8	N-D	L 0.1	.8
	CADMIUM	N-D	2.3	N-D	.1	2.2
	CHROMIUM	8.3	251	7.0	14.2	230
	COPPER	16.9	80.9	35.1	6.2	39.6
	CYANIDE	32.4	15.9	8.5	.6	6.8
	LEAD	25.2	29.6	N-D	4.8	24.8
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	71.9	42.6	3.8	25.5
	SILVER	.6	7.1	.3	.3	6.5
	ZINC	43.0	214	50.1	24.1	140

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L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810216 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	ALUMINUM	1029	-	95.2	NOT RUN	NOT RUN
	BARIUM	23.5	-	6.5	NOT RUN	NOT RUN
	BORON	21.2	-	18.3	NOT RUN	NOT RUN
	CALCIUM	13754	-	12274	NOT RUN	NOT RUN
	COBALT	1.4	-	1.5	NOT RUN	NOT RUN
	IRON	725	-	95.2	NOT RUN	NOT RUN
	MAGNESIUM	2292	-	2254	NOT RUN	NOT RUN
	MANGANESE	88.8	-	62.6	NOT RUN	NOT RUN
	SODIUM	42123	-	48594	NOT RUN	NOT RUN
	TITANIUM	N-D	-	15.3	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810217 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	104725	128440	9796	22158	96486
	TOTAL SUSP. SOLIDS	92008	293469	9796	42100	241573
	COD	224410	348265	37156	53812	257297
	OIL & GREASE	16831	29849	1013	8467	20369
NON-CONVENTIONALS	TOTAL PHENOLS	337	23.3	17.9	1.8	3.6
	TOTAL SOLIDS	501183	584370	273941	43841	266588
	TOTAL DISS. SOLIDS	407678	290742	264145	1725	24872
	TOTAL VOLATILE SOLIDS	139882	160763	47627	19151	93985
	VOLATILE DISS. SOLIDS	83032	48823	41885	506	6432
	TOTAL VOL. SUS. SOLIDS	56851	112096	5742	18802	87552
	AMMONIA NITROGEN	3740	3340	2702	30.1	608
	TOC	97244	77673	13849	6647	57177
VOLATILES	BENZENE	7.5	1.4	1.4	L 0.1	N-D
	CHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	2.6	N-D	N-D	N-D	N-D
	1,1-DICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,2,2-TETRACHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	44.9	16.3	15.2	.1	1.0
	ETHYLBENZENE	12.7	1.3	1.0	.3	N-D
	METHYLENE CHLORIDE	9.4	7.4	7.4	N-D	N-D
	TETRACHLOROETHYLENE	14.2	1.1	.7	N-D	.4
	TOLUENE	187	19.6	18.6	1.0	N-D
	TRICHLOROETHYLENE	3.7	.5	N-D	.4	L 0.1
ACID EXTRACT	2,4-DICHLOROPHENOL	.7	N-D	N-D	N-D	N-D
	PHENOL	97.2	3.4	2.7	.7	N-D
BASE-NEUTRALS	ACENAPHTHENE	.4	L 0.1	N-D	L 0.1	N-D
	1,2,4-TRICHLOROBENZENE	3.0	2.2	N-D	.8	1.4
	HEXACHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	1,3-DICHLOROBENZENE	.7	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	2.2	N-D	N-D	N-D	N-D
	2,6-DINITROTOLUENE	N-D	L 0.1	N-D	L 0.1	N-D
	FLUORANTHENE	N-D	1.9	1.7	.2	N-D
	BIS(2-CHLOROETHYOXY) METHANE	7.5	N-D	N-D	N-D	N-D
	NAPHTHALENE	N-D	.4	N-D	.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	59.8	N-D	N-D	N-D	N-D
	ACENAPHTHYLENE	1.1	N-D	N-D	N-D	N-D
	ANTHRACENE	.4	.3	N-D	.3	N-D
	FLUORENE	.7	.1	N-D	.1	N-D
	PHENANTHRENE	.4	.3	N-D	.3	N-D
	PYRENE	N-D	.2	N-D	.2	N-D
PESTICIDES	ALPHA-BHC	N-D	L 0.1	N-D	L 0.1	N-D
METALS	ANTIMONY	N-D	1.3	N-D	.1	1.2
	ARSENIC	N-D	18.3	N-D	3.6	14.7
	BERYLLIUM	N-D	1.1	N-D	.2	.9
	CADMIUM	1.9	2.5	N-D	.4	2.1

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810217 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	52.4	250	8.4	28.5	214
	COPPER	35.5	65.5	6.8	15.8	42.9
	CYANIDE	125	19.4	11.8	4.3	3.3
	LEAD	34.4	46.0	N-D	13.1	32.9
	MERCURY	.4	L 0.1	N-D	L 0.1	N-D
	NICKEL	21.7	36.0	N-D	7.4	28.6
	SELENIUM	4.5	L 0.1	N-D	L 0.1	N-D
	SILVER	3.7	9.0	.3	1.6	7.1
	ZINC	213	246	37.2	58.6	150
NON-CONV. METALS	ALUMINUM	2192	-	155	NOT RUN	NOT RUN
	BARIUM	48.6	-	9.8	NOT RUN	NOT RUN
	BORON	56.1	-	40.5	NOT RUN	NOT RUN
	CALCIUM	18701	-	15874	NOT RUN	NOT RUN
	COBALT	4.9	-	1.7	NOT RUN	NOT RUN
	IRON	1313	-	142	NOT RUN	NOT RUN
	MAGNESIUM	3366	-	2702	NOT RUN	NOT RUN
	MANGANESE	120	-	81.1	NOT RUN	NOT RUN
	SODIUM	115197	-	80392	NOT RUN	NOT RUN
	VANADIUM	1.9	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810218 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	72333	205025	8479	18992	177554
	TOTAL SUSP. SOLIDS	53263	307419	7602	46531	253286
	COD	134802	382197	35086	42733	304378
	OIL & GREASE	5918	21562	N-D	4495	17067
NON-CONVENTIONALS	TOTAL PHENOLS	158	27.1	24.6	1.1	1.4
	TOTAL SOLIDS	284070	575918	252619	48272	275027
	TOTAL DISS. SOLIDS	230807	268531	245017	1773	21741
	TOTAL VOLATILE SOLIDS	87128	158156	34794	28425	94937
	VOLATILE DISS. SOLIDS	55893	34551	29823	380	4348
	TOTAL VOL. SUS. SOLIDS	31235	123574	4971	28014	90589
	AMMONIA NITROGEN	1973	1654	1462	11.1	181
	TOC	59181	137197	14912	6331	115954
VOLATILES	BENZENE	8.9	1.6	1.2	N-D	.4
	1,1,1-TRICHLOROETHANE	78.9	21.2	15.8	4.0	1.4
	1,1-DICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	15.1	18.8	18.1	.1	.6
	1,1-DICHLOROETHYLENE	6.9	.3	.3	N-D	N-D
	ETHYLBENZENE	6.9	3.1	2.9	N-D	.2
	METHYLENE CHLORIDE	18.1	11.7	11.7	N-D	N-D
	TETRACHLOROETHYLENE	7.6	1.9	1.8	L 0.1	N-D
	TOLUENE	128	9.0	8.2	.8	N-D
	TRICHLOROETHYLENE	3.3	.8	.6	L 0.1	.1
ACID EXTRACT	2,4-DICHLOROPHENOL	4.6	.9	.9	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	.3	.3	N-D	N-D
	4-NITROPHENOL	N-D	14.5	N-D	N-D	14.5
	PHENOL	39.5	1.2	1.2	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,2,4-TRICHLOROBENZENE	6.9	6.0	.6	1.1	4.3
	1,3-DICHLOROBENZENE	1.0	1.5	1.5	N-D	N-D
	FLUORANTHENE	N-D	.2	N-D	.2	N-D
	BIS(2-CHLOROETHYOXY) METHANE	5.3	N-D	N-D	N-D	N-D
	NAPHTHALENE	5.6	1.9	N-D	.5	1.4
	BIS(2-ETHYLHEXYL) PHTHALATE	1.3	.6	.6	N-D	N-D
	BUTYL BENZYL PHTHALATE	N-D	36.2	N-D	N-D	36.2
	DI-N-BUTYL PHTHALATE	N-D	.6	.6	N-D	N-D
	FLUORENE	N-D	.1	N-D	.1	N-D
	PHENANTHRENE	N-D	.3	N-D	.3	N-D
	PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	N-D	.9	N-D	L 0.1	.9
	ARSENIC	N-D	10.4	N-D	1.3	9.1
	BERYLLIUM	N-D	1.2	N-D	L 0.1	1.2
	CADMIUM	1.6	3.2	N-D	.3	2.9
	CHROMIUM	18.4	217	8.2	10.1	199
	COPPER	25.0	61.2	3.8	10.3	47.1
	CYANIDE	13.5	15.0	12.9	1.0	1.1
	LEAD	28.6	50.3	N-D	10.4	39.9

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810218 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	38.0	N-D	4.3	33.7
	SILVER	1.3	9.7	.3	1.1	8.3
	ZINC	95.3	256	38.0	39.6	178
NON-CONV. METALS	ALUMINUM	1092	-	129	NOT RUN	NOT RUN
	BARIUM	27.9	-	7.6	NOT RUN	NOT RUN
	BORON	26.0	-	29.2	NOT RUN	NOT RUN
	CALCIUM	13809	-	11695	NOT RUN	NOT RUN
	COBALT	6.9	-	2.3	NOT RUN	NOT RUN
	IRON	1003	-	123	NOT RUN	NOT RUN
	MAGNESIUM	1973	-	2047	NOT RUN	NOT RUN
	MANGANESE	72.3	-	58.5	NOT RUN	NOT RUN
	SODIUM	52277	-	74850	NOT RUN	NOT RUN

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L-LESS THAN; N-D-NOT DETECTED.

MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810218 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	27.5	10.5	38.0
	TOTAL SUSP. SOLIDS	81.0	111	192
	COD	127	55.0	182
	OIL & GREASE	5.2	2.0	7.2
NON-CONVENTIONALS	TOTAL PHENOLS	.1	L 0.1	.2
	TOTAL SOLIDS	370	447	817
	TOTAL DISS. SOLIDS	290	335	625
	TOTAL VOLATILE SOLIDS	00.0	56.0	156
	VOLATILE DISS. SOLIDS	56.0	32.5	88.5
	TOTAL VOL. SUS. SOLIDS	44.0	23.5	67.5
	AMMONIA NITROGEN	11.0	15.0	26.0
	TOC	47.5	31.2	78.7
VOLATILES	BENZENE	L 0.1	L 0.1	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	1,1-DICHLOROETHANE	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	L 0.1	N-D	L 0.1
	METHYLENE CHLORIDE	L 0.1	L 0.1	L 0.1
	TOLUENE	L 0.1	L 0.1	L 0.1
ACID EXTRACT	PARACHLOROMETA CRESOL	L 0.1	N-D	L 0.1
	2-CHLOROPHENOL	N-D	L 0.1	L 0.1
	2,4-DICHLOROPHENOL	N-D	L 0.1	L 0.1
	PHENOL	L 0.1	L 0.1	L 0.1
BASE-NEUTRALS	1,3-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,4-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,2-DIPHENYLHYDRAZINE	N-D	L 0.1	L 0.1
	NAPHTHALENE	N-D	L 0.1	L 0.1
	NITROBENZENE	L 0.1	N-D	L 0.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-BUTYL PHTHALATE	L 0.1	N-D	L 0.1
	DIETHYL PHTHALATE	N-D	L 0.1	L 0.1
	ANTHRACENE	L 0.1	N-D	L 0.1
	PHENANTHRENE	L 0.1	N-D	L 0.1
METALS	CADMIUM	L 0.1	N-D	L 0.1
	CHROMIUM	.1	L 0.1	.1
	COPPER	L 0.1	L 0.1	L 0.1
	LEAD	L 0.1	L 0.1	L 0.1
	MERCURY	L 0.1	L 0.1	L 0.1
	NICKEL	L 0.1	N-D	L 0.1
	SILVER	L 0.1	L 0.1	L 0.1
	ZINC	.2	L 0.1	.3
NON-CONV. METALS	ALUMINUM	4.4	1.1	5.5
	BARIUM	.1	L 0.1	.1
	BORON	L 0.1	L 0.1	L 0.1
	CALCIUM	53.2	70.5	124
	COBALT	L 0.1	L 0.1	L 0.1

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810218 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
NON-CONV. METALS	IRON	3.3	1.3	4.6
	MAGNESIUM	7.0	9.2	16.2
	MANGANESE	.5	.6	1.1
	MOLYBDENUM	L 0.1	N-D	L 0.1
	SODIUM	44.2	63.0	107
	TITANIUM	L 0.1	N-D	L 0.1
	VANADIUM	L 0.1	L 0.1	L 0.1
	YTTRIUM	L 0.1	L 0.1	L 0.1

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810219 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	66036	118616	5661	4998	107957
	TOTAL SUSP. SOLIDS	54150	251397	11321	12287	227789
	COD	110060	305054	36795	9163	259096
	OIL & GREASE	2201	57547	1617	512	55418
NON-CONVENTIONALS	TOTAL PHENOLS	154	5.5	5.3	.2	N-D
	TOTAL SOLIDS	296282	488603	231281	12620	244702
	TOTAL DISS. SOLIDS	242132	237190	219960	317	16913
	TOTAL VOLATILE SOLIDS	86727	189819	26686	6956	156177
	VOLATILE DISS. SOLIDS	55470	20806	18195	91.6	2519
	TOTAL VOL. SUS. SOLIDS	31257	169022	8491	6872	153659
	AMMONIA NITROGEN	2201	587	404	2.9	180
	TOC	57231	56240	15365	1291	39584
VOLATILES	BENZENE	11.4	.8	.8	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	4.4	1.6	1.6	L 0.1	N-D
	1,1-DICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,2,2-TETRACHLOROETHANE	3.5	N-D	N-D	N-D	N-D
	CHLOROFORM	18.9	12.5	12.5	L 0.1	N-D
	ETHYLBENZENE	7.9	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	29.5	18.6	18.6	N-D	N-D
	TETRACHLOROETHYLENE	198	10.7	7.7	.1	2.9
	TOLUENE	154	1.5	1.2	.3	N-D
	TRICHLOROETHYLENE	34.3	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	2.4	2.4	N-D	N-D
	2,4-DICHLOROPHENOL	3.5	2.4	2.4	N-D	N-D
	PHENOL	44.0	.8	.8	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	14.5	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	2.2	3.7	N-D	L 0.1	3.6
	1,3-DICHLOROBENZENE	.4	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	1.3	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	L 0.1	N-D	L 0.1	N-D
	NAPHTHALENE	2.6	L 0.1	N-D	L 0.1	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.3	89.0	89.0	N-D	N-D
	DI-N-BUTYL PHTHALATE	.4	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	.9	N-D	N-D	N-D	N-D
	PHENANTHRENE	N-D	L 0.1	N-D	L 0.1	N-D
	PYRENE	N-D	L 0.1	N-D	L 0.1	N-D
METALS	ANTIMONY	N-D	1.2	N-D	L 0.1	1.2
	ARSENIC	N-D	11.2	N-D	.4	10.8
	BERYLLIUM	N-D	1.6	N-D	.1	1.5
	CADMIUM	N-D	2.6	N-D	L 0.1	2.5
	CHROMIUM	25.5	250	30.3	4.2	216
	COPPER	19.8	50.2	N-D	3.4	46.8
	CYANIDE	7.5	14.9	6.9	.6	7.4
	LEAD	37.0	46.3	N-D	3.1	43.2
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	88.0	89.1	38.4	3.9	46.8

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810219 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	1.8	8.9	.4	.2	8.3
	ZINC	110	227	38.4	12.9	176
NON-CONV. METALS	ALUMINUM	1963	-	226	NOT RUN	NOT RUN
	BARIUM	31.7	-	11.3	NOT RUN	NOT RUN
	BORON	24.7	-	24.7	NOT RUN	NOT RUN
	CALCIUM	18490	-	16578	NOT RUN	NOT RUN
	COBALT	7.5	-	5.7	NOT RUN	NOT RUN
	IRON	1145	-	259	NOT RUN	NOT RUN
	MAGNESIUM	2641	-	2426	NOT RUN	NOT RUN
	MANGANESE	96.9	-	72.8	NOT RUN	NOT RUN
	SODIUM	53709	-	55394	NOT RUN	NOT RUN
	VANADIUM	2.2	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	4.4	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN;   N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810220 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	121264	83896	9870	2047	71971
	TOTAL SUSP. SOLIDS	86340	283387	43103	16094	224190
	COD	208574	315082	76328	19242	219512
	OIL & GREASE	2910	14654	1347	1108	12199
NON-CONVENTIONALS	TOTAL PHENOLS	243	7.2	6.7	.5	N-D
	TOTAL SOLIDS	405507	576626	315189	16735	244702
	TOTAL DISS. SOLIDS	319167	293234	272086	636	20512
	TOTAL VOLATILE SOLIDS	123204	184874	66450	9380	109036
	VOLATILE DISS. SOLIDS	73728	41327	36817	192	4318
	TOTAL VOL. SUS. SOLIDS	49476	143564	29633	9213	104718
	AMMONIA NITROGEN	2425	1676	1347	5.2	324
	TOC	80034	71456	26041	5831	39584
VOLATILES	BENZENE	4.4	1.3	1.3	N-D	N-D
	1,1,1-TRICHLOROETHANE	2.9	N-D	N-D	N-D	N-D
	CHLOROFORM	28.6	16.2	15.3	L 0.1	.9
	ETHYLBENZENE	28.6	1.8	1.8	L 0.1	N-D
	METHYLENE CHLORIDE	43.7	18.4	18.4	N-D	N-D
	TETRACHLOROETHYLENE	55.3	10.5	9.4	N-D	1.1
	TOLUENE	36.4	1.3	1.3	L 0.1	N-D
	TRICHLOROETHYLENE	1.5	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	3.4	.9	.9	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	1.3	1.3	N-D	N-D
	PHENOL	44.1	1.8	1.8	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	5.3	6.8	3.1	.2	3.5
	1,2-DICHLOROBENZENE	N-D	13.7	11.2	.3	2.2
	1,3-DICHLOROBENZENE	1.0	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	11.2	L 0.1	N-D	L 0.1	N-D
	NAPHTHALENE	.5	.1	N-D	.1	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.0	2.7	2.7	N-D	N-D
	DI-N-BUTYL PHTHALATE	1.0	4.5	4.5	N-D	N-D
	DI-N-OCTYL PHTHALATE	N-D	17.5	17.5	N-D	N-D
	DIETHYL PHTHALATE	N-D	1.8	1.8	N-D	N-D
	PHENANTHRENE	N-D	L 0.1	N-D	L 0.1	N-D
METALS	ANTIMONY	N-D	1.0	N-D	L 0.1	.9
	ARSENIC	N-D	11.8	N-D	1.0	10.8
	BERYLLIUM	N-D	1.5	N-D	L 0.1	1.5
	CADMIUM	N-D	2.4	N-D	.2	2.2
	CHROMIUM	29.6	215	29.6	4.8	180
	COPPER	23.3	264	7.6	4.1	252
	CYANIDE	53.8	14.7	11.2	.3	3.2
	LEAD	N-D	30.3	N-D	2.6	27.7
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	58.2	79.1	26.0	9.9	43.2
	SILVER	1.9	9.4	.9	.2	8.3
	ZINC	107	240	67.3	15.2	158

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810220 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	ALUMINUM	2285	-	862	NOT RUN	NOT RUN
	BARIUM	37.3	-	24.2	NOT RUN	NOT RUN
	BORON	63.1	-	44.9	NOT RUN	NOT RUN
	CALCIUM	20857	-	20653	NOT RUN	NOT RUN
	COBALT	7.8	-	6.3	NOT RUN	NOT RUN
	IRON	1644	-	638	NOT RUN	NOT RUN
	MAGNESIUM	3395	-	2694	NOT RUN	NOT RUN
	MANGANESE	121	-	94.3	NOT RUN	NOT RUN
	SODIUM	69848	-	67348	NOT RUN	NOT RUN
	VANADIUM	2.4	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN)   N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810221 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	77634	64981	7345	4665	52971
	TOTAL SUSP. SOLIDS	60259	243255	9348	17993	215914
	COD	129390	298179	32385	17493	248301
	OIL & GREASE	5176	12412	N-D	1508	10904
NON-CONVENTIONALS	TOTAL PHENOLS	222	10.8	7.7	.8	2.3
	TOTAL SOLIDS	307208	488770	235042	18742	234986
	TOTAL DISS. SOLIDS	246950	245516	225694	750	19072
	TOTAL VOLATILE SOLIDS	91312	194967	39396	9829	145742
	VOLATILE DISS. SOLIDS	53235	36586	32051	217	4318
	TOTAL VOL. SUS. SOLIDS	38078	158347	7345	9579	141423
	AMMONIA NITROGEN	2957	2082	1669	17.5	396
	TOC	57301	52763	13689	5248	33826
VOLATILES	BENZENE	4.4	1.0	1.0	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	2.2	N-D	N-D	N-D	N-D
	1,1-DICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	18.5	10.4	9.7	L 0.1	.7
	1,2-TRANS-DICHLOROETHYLENE	.4	L 0.1	N-D	L 0.1	N-D
	ETHYLBENZENE	4.1	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	44.4	20.0	20.0	L 0.1	N-D
	TETRACHLOROETHYLENE	14.8	2.8	2.3	L 0.1	.5
	TOLUENE	29.2	1.1	1.0	L 0.1	N-D
	TRICHLOROETHYLENE	1.8	L 0.1	N-D	L 0.1	N-D
	VINYL CHLORIDE	N-D	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	1.5	.3	.3	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	.7	.7	N-D	N-D
	PHENOL	28.5	5.2	5.0	.2	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	14.8	9.7	5.3	.1	4.3
	1,3-DICHLOROBENZENE	1.5	1.0	1.0	N-D	N-D
	NAPHTHALENE	8.9	L 0.1	N-D	L 0.1	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.8	.3	.3	N-D	N-D
	DI-N-BUTYL PHTHALATE	5.9	1.3	1.3	N-D	N-D
	DIETHYL PHTHALATE	5.9	2.0	2.0	N-D	N-D
	ANTHRACENE	.4	N-D	N-D	N-D	N-D
	PHENANTHRENE	.4	N-D	N-D	N-D	N-D
METALS	ANTIMONY	N-D	1.5	N-D	L 0.1	1.5
	ARSENIC	N-D	8.5	N-D	.9	7.6
	BERYLLIUM	N-D	1.2	N-D	L 0.1	1.2
	CADMIUM	N-D	2.6	N-D	.1	2.5
	CHROMIUM	44.4	197	7.7	4.9	184
	COPPER	23.3	46.6	N-D	3.4	43.2
	CYANIDE	76.5	40.8	34.4	.2	6.2
	LEAD	N-D	38.2	N-D	2.2	36.0
	MERCURY	.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	24.8	55.1	N-D	8.3	46.8
	SILVER	1.5	9.2	.3	.3	8.6

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810221 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ZINC	92.4	204	40.1	13.3	151
NON-CONV. METALS	ALUMINUM	1516	-	180	NOT RUN	NOT RUN
	BARIUM	37.0	-	11.0	NOT RUN	NOT RUN
	BORON	48.1	-	32.7	NOT RUN	NOT RUN
	CALCIUM	16636	-	15358	NOT RUN	NOT RUN
	COBALT	7.0	-	5.3	NOT RUN	NOT RUN
	IRON	1153	-	140	NOT RUN	NOT RUN
	MAGNESIUM	2218	-	2003	NOT RUN	NOT RUN
	MANGANESE	99.8	-	66.8	NOT RUN	NOT RUN
	SODIUM	59519	-	58427	NOT RUN	NOT RUN
	YTTRIUM	7.4	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810222 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	77505	112091	4834	6497	100760
	TOTAL SUSP. SOLIDS	87703	193895	7809	12995	173091
	COD	126455	196355	18593	15827	161935
	OIL & GREASE	5303	11815	1859	1499	8457
NON-CONVENTIONALS	TOTAL PHENOLS	355	7.2	4.8	1.0	1.4
	TOTAL SOLIDS	281057	381481	177373	13744	190364
	TOTAL DISS. SOLIDS	193354	187545	169564	708	17273
	TOTAL VOLATILE SOLIDS	127679	167501	38673	8996	119832
	VOLATILE DISS. SOLIDS	65267	37283	32723	242	4318
	TOTAL VOL. SUS. SOLIDS	62412	130210	5950	8746	115514
	AMMONIA NITROGEN	4079	4700	3347	22.5	1331
	TOC	63228	96472	10040	3665	82767
VOLATILES	BENZENE	5.7	.4	.4	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	2.9	N-D	N-D	N-D	N-D
	CHLOROFORM	24.1	11.0	10.4	L 0.1	.6
	1,2-TRANS-DICHLOROETHYLENE	.4	N-D	N-D	N-D	N-D
	ETHYLBENZENE	4.5	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	44.9	18.7	18.6	.1	N-D
	TETRACHLOROETHYLENE	4.5	.7	.7	L 0.1	N-D
	TOLUENE	40.8	1.6	1.5	L 0.1	N-D
	TRICHLOROETHYLENE	2.4	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	1.2	.4	.4	N-D	N-D
	PHENOL	61.2	1.1	.7	.4	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	N-D	2.8	N-D	.6	2.2
	1,4-DICHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,2-DIPHENYLHYDRAZINE	1.6	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.1	N-D	.1	N-D
	NAPHTHALENE	5.3	.2	N-D	.2	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	.4	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	2.0	N-D	N-D	N-D	N-D
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.1	N-D	.1	N-D
	PYRENE	N-D	L 0.1	N-D	L 0.1	N-D
METALS	ANTIMONY	N-D	1.0	N-D	L 0.1	1.0
	ARSENIC	N-D	7.1	N-D	1.0	6.1
	BERYLLIUM	N-D	.8	N-D	L 0.1	.8
	CADMIUM	N-D	1.9	N-D	L 0.1	1.8
	CHROMIUM	39.2	164	8.9	6.7	148
	COPPER	22.0	39.8	N-D	3.8	36.0
	CYANIDE	6.1	32.2	23.1	.4	8.7
	LEAD	N-D	27.5	N-D	2.7	24.8
	MERCURY	.2	.4	N-D	L 0.1	.4
	NICKEL	N-D	43.3	N-D	3.7	39.6
	SILVER	2.4	8.7	.4	.4	7.9
	ZINC	89.7	175	40.9	15.0	119

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810222 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
NON-CONV. METALS	ALUMINUM	1256	-	134	NOT RUN	NOT RUN
	BARIUM	40.8	-	11.5	NOT RUN	NOT RUN
	BORON	53.0	-	32.7	NOT RUN	NOT RUN
	CALCIUM	19988	-	18221	NOT RUN	NOT RUN
	COBALT	5.7	-	3.7	NOT RUN	NOT RUN
	IRON	1134	-	119	NOT RUN	NOT RUN
	MAGNESIUM	2448	-	2231	NOT RUN	NOT RUN
	MANGANESE	131	-	85.5	NOT RUN	NOT RUN
	SODIUM	27739	-	39416	NOT RUN	NOT RUN
	VANADIUM	2.0	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	2.9	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810223 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	64495	85852	3034	4765	78053
	TOTAL SUSP. SOLIDS	34963	167484	5461	9804	152219
	COD	67889	216657	13955	15577	187125
	OIL & GREASE	5092	12760	3944	4462	4354
NON-CONVENTIONALS	TOTAL PHENOLS	187	4.6	2.4	.8	1.4
	TOTAL SOLIDS	199935	302566	125599	10354	166613
	TOTAL DISS. SOLIDS	164971	135091	120138	559	14394
	TOTAL VOLATILE SOLIDS	59743	128057	28518	7056	92483
	VOLATILE DISS. SOLIDS	37339	27538	23664	275	3599
	TOTAL VOL. SUS. SOLIDS	22404	100519	4854	6781	88884
	AMMONIA NITROGEN	5771	5402	4551	22.9	828
	TOC	44128	152590	9405	2841	140344
VOLATILES	BENZENE	4.4	.3	.3	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	N-D	1.2	1.2	N-D	N-D
	CHLORCFORM	9.2	6.0	5.5	L 0.1	.5
	1,2-TRANS-DICHLOROETHYLENE	.3	N-D	N-D	N-D	N-D
	ETHYLBENZENE	7.1	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	7.1	4.2	4.2	N-D	N-D
	TETRACHLOROETHYLENE	4.1	.3	.3	L 0.1	N-D
	TOLUENE	47.5	1.7	1.5	.2	N-D
	TRICHLOROETHYLENE	3.4	1.8	1.8	L 0.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	N-D	.3	.3	N-D	N-D
	PENTACHLOROPHENOL	N-D	.3	.3	N-D	N-D
	PHENOL	74.7	.3	.3	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	N-D	.1	N-D	.1	N-D
	1,4-DICHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	FLUORANTHENE	N-D	3.0	N-D	.1	2.9
	BIS(2-CHLOROETHYOXY) METHANE	2.7	N-D	N-D	N-D	N-D
	NAPHTHALENE	3.4	.2	N-D	.2	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	4.1	5.5	5.5	N-D	N-D
	DI-N-BUTYL PHTHALATE	N-D	2.1	2.1	N-D	N-D
	1,2-BENZANTHRACENE	N-D	2.2	N-D	N-D	2.2
	CHRYSENE	N-D	2.2	N-D	N-D	2.2
	ACENAPHTHYLENE	N-D	2.2	N-D	L 0.1	2.2
	FLUORENE	N-D	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	L 0.1	N-D	L 0.1	N-D
	PYRENE	N-D	3.0	N-D	L 0.1	2.9
METALS	ARSENIC	N-D	2.8	N-D	.1	2.7
	BERYLLIUM	N-D	.3	N-D	L 0.1	.3
	CADMIUM	N-D	2.9	N-D	L 0.1	2.9
	CHROMIUM	8.8	127	N-D	1.5	126
	COPPER	8.8	31.3	N-D	1.1	30.2
	CYANIDE	4.1	8.7	3.6	.2	4.9
	LEAD	N-D	16.3	N-D	.5	15.8
	MERCURY	.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	40.4	N-D	.8	39.6

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POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810223 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	.7	4.8	N-D	.1	4.7
	ZINC	74.7	128	15.8	.4	112
NON-CONV. METALS	ALUMINUM	1008	-	81.9	NOT RUN	NOT RUN
	BARIUM	22.1	-	9.1	NOT RUN	NOT RUN
	BORON	30.2	-	23.1	NOT RJN	NOT RUN
	CALCIUM	17312	-	15169	NOT RUN	NOT RUN
	COBALT	2.7	-	3.0	NOT RUN	NOT RUN
	IRON	584	-	72.8	NOT RUN	NOT RUN
	MAGNESIUM	2376	-	1820	NOT RUN	NOT RUN
	MANGANESE	105	-	78.9	NOT RUN	NOT RUN
	MOLYBDENUM	21.4	-	N-D	NOT RUN	NOT RUN
	SODIUM	33945	-	22450	NOT RUN	NOT RUN

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810224 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	110917	131011	9726	13328	107957
	TOTAL SUSP. SOLIDS	92251	197458	7457	16910	173091
	COD	252249	282363	35662	19992	226709
	OIL & GREASE	7207	11377	N-D	941	10436
NON-CONVENTIONALS	TOTAL PHENOLS	115	15.2	11.3	.7	3.2
	TOTAL SOLIDS	493687	497577	273304	18076	206197
	TOTAL DISS. SOLIDS	399995	300095	265847	1141	33107
	TOTAL VOLATILE SOLIDS	118557	159845	26585	9829	123431
	VOLATILE DISS. SOLIDS	62702	27304	22694	292	4318
	TOTAL VOL. SUS. SOLIDS	55855	132498	3890	9496	119112
	AMMONIA NITROGEN	5405	5935	5187	28.3	720
	TOC	100900	86084	15562	5748	64774
VOLATILES	BENZENE	4.3	1.0	1.0	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	5.8	1.0	1.0	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	20.8	9.5	9.4	L 0.1	N-D
	ETHYLBENZENE	1.8	.4	.3	L 0.1	N-D
	METHYLENE CHLORIDE	13.0	23.0	23.0	N-D	N-D
	TETRACHLOROETHYLENE	17.7	2.4	2.3	L 0.1	N-D
	TOLUENE	82.9	3.8	3.6	.2	N-D
	TRICHLOROETHYLENE	90.1	1.6	1.6	L 0.1	N-D
ACID EXTRACT	2,4-DINITROPHENOL	1.4	N-D	N-D	N-D	N-D
	PHENOL	64.9	2.6	2.6	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	106	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	16.2	5.8	2.3	1.2	2.3
	1,2-DICHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,3-DICHLOROBENZENE	1.4	.6	.6	N-D	N-D
	1,4-DICHLOROBENZENE	2.9	.2	N-D	.2	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	7.2	.4	N-D	.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.4	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	1.4	N-D	N-D	N-D	N-D
	1,2-BENZANTHRACENE	N-D	L 0.1	N-D	L 0.1	N-D
	11,12-BENZOFLUORANTHENE	N-D	L 0.1	N-D	L 0.1	N-D
	CHRYSENE	N-D	L 0.1	N-D	L 0.1	N-D
	ANTHRACENE	N-D	.2	N-D	.2	N-D
	FLUORENE	.7	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	4.0	1.7	1.6	L 0.1	N-D
	ARSENIC	N-D	11.7	6.2	1.9	3.6
	BERYLLIUM	N-D	.5	N-D	L 0.1	.5
	CADMIUM	1.8	3.3	N-D	L 0.1	3.2
	CHROMIUM	82.9	194	9.7	7.6	176
	COPPER	46.8	56.4	8.4	1.2	46.8
	CYANIDE	32.4	24.5	13.0	.8	10.7

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810224 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	LEAD	N-D	38.9	16.2	.7	22.0
	MERCURY	.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	32.8	58.2	22.7	.6	34.9
	SELENIUM	N-D	L 0.1	N-D	L 0.1	N-D
	SILVER	2.2	8.1	.3	.2	7.6
	ZINC	202	198	35.7	3.7	158
NON-CONV. METALS	ALUMINUM	2180	-	149	NOT RUN	NOT RUN
	BARIUM	50.4	-	9.7	NOT RUN	NOT RUN
	BORON	50.4	-	27.6	NOT RUN	NOT RUN
	CALCIUM	19099	-	16210	NOT RUN	NOT RUN
	COBALT	8.3	-	5.5	NOT RUN	NOT RUN
	IRON	973	-	107	NOT RUN	NOT RUN
	MAGNESIUM	2883	-	2594	NOT RUN	NOT RUN
	MANGANESE	123	-	71.3	NOT RUN	NOT RUN
	MOLYBDENUM	14.1	-	20.1	NOT RUN	NOT RUN
	SODIUM	116395	-	74512	NOT RUN	NOT RUN
	TITANIUM	23.8	-	N-D	NOT RUN	NOT RUN
	VANADIUM	1.8	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	3.6	-	N-D	NOT RUN	NOT RUN

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810224 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	271	27.5	298
	TOTAL SUSP. SOLIDS	1028	68.7	1096
	COD	1191	77.5	1269
	OIL & GREASE	130	1.2	131
NON-CONVENTIONALS	TOTAL PHENOLS	.6	L 0.1	.7
	TOTAL SOLIDS	2469	380	2849
	TOTAL DISS. SOLIDS	1440	310	1750
	TOTAL VOLATILE SOLIDS	788	42.5	831
	VOLATILE DISS. SOLIDS	321	35.0	356
	TOTAL VOL. SUS. SOLIDS	468	7.5	475
	AMMONIA NITROGEN	141	12.5	153
	TOC	471	23.7	495
VOLATILES	BENZENE	L 0.1	L 0.1	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	.2	L 0.1	.2
	METHYLENE CHLORIDE	L 0.1	L 0.1	L 0.1
	TOLUENE	.1	L 0.1	.1
ACID EXTRACT	PHENOL	N-D	L 0.1	L 0.1
BASE-NEUTRALS	ACENAPHTHENE	L 0.1	N-D	L 0.1
	1,3-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,4-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	BIS(2-CHLOROETHYOXY) METHANE	L 0.1	L 0.1	L 0.1
	NAPHTHALENE	L 0.1	N-D	L 0.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-BUTYL PHTHALATE	L 0.1	N-D	L 0.1
	DI-N-OCTYL PHTHALATE	L 0.1	N-D	L 0.1
	DIETHYL PHTHALATE	L 0.1	L 0.1	L 0.1
	ACENAPHTHYLENE	N-D	L 0.1	L 0.1
	ANTHRACENE	L 0.1	N-D	L 0.1
	1,12-BENZOPERYLENE	L 0.1	N-D	L 0.1
	PHENANTHRENE	L 0.1	N-D	L 0.1
	1,2:5,6-DIBENZANTHRACENE	L 0.1	N-D	L 0.1
METALS	ARSENIC	L 0.1	N-D	L 0.1
	BERYLLIUM	L 0.1	N-D	L 0.1
	CADMIUM	L 0.1	N-D	L 0.1
	CHROMIUM	.5	L 0.1	.5
	COPPER	.3	L 0.1	.3
	CYANIDE	L 0.1	N-D	L 0.1
	LEAD	.3	N-D	.3
	MERCURY	L 0.1	N-D	L 0.1
	NICKEL	.3	L 0.1	.3
	SILVER	L 0.1	L 0.1	L 0.1
	ZINC	1.2	L 0.1	1.2
NON-CONV. METALS	ALUMINUM	23.9	.4	24.4
	BARIUM	.5	L 0.1	.6

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810224 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
NON-CONV. METALS	BORON	.2	L 0.1	.2
	CALCIUM	326	67.5	393
	COBALT	L 0.1	L 0.1	L 0.1
	IRON	17.1	1.1	18.2
	MAGNESIUM	42.2	9.0	51.2
	MANGANESE	3.7	.6	4.3
	MOLYBDENUM	L 0.1	N-D	L 0.1
	SODIUM	258	56.5	314
	TITANIUM	L 0.1	L 0.1	L 0.1
	VANADIUM	L 0.1	N-D	L 0.1
	YTTRIUM	.2	L 0.1	.2

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810225 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	123034	121231	17656	13611	89964
	TOTAL SUSP. SOLIDS	74875	192120	12612	39884	139624
	COD	242553	364179	56752	80710	226709
	OIL & GREASE	8437	17558	1576	3387	12595
NON-CONVENTIONALS	TOTAL PHENOLS	264	26.6	20.5	.7	5.4
	TOTAL SOLIDS	418316	541623	321596	42258	177769
	TOTAL DISS. SOLIDS	344495	348921	308354	2422	38145
	TOTAL VOLATILE SOLIDS	120573	164391	31529	27064	105798
	VOLATILE DISS. SOLIDS	77336	29238	21440	601	7197
	TOTAL VOL. SUS. SOLIDS	43238	135121	10089	26431	98601
	AMMONIA NITROGEN	5976	4370	3783	11.1	576
	TOC	96670	137896	24908	15827	97161
VOLATILES	BENZENE	21.1	1.6	1.6	N-D	N-D
	1,1,1-TRICHLOROETHANE	2.8	N-D	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	.6	N-D	.3	.3
	CHLOROETHANE	N-D	.7	N-D	N-D	.7
	CHLOROFORM	31.6	10.7	10.1	L 0.1	.5
	ETHYLBENZENE	22.1	2.4	1.9	L 0.1	.4
	METHYLENE CHLORIDE	5.3	8.5	8.5	N-D	N-D
	TETRACHLOROETHYLENE	22.8	3.2	2.8	N-D	.4
	TOLUENE	91.4	9.2	8.2	N-D	1.0
	TRICHLOROETHYLENE	13.0	19.2	18.3	.4	.5
ACID EXTRACT	2,4-DINITROPHENOL	1.1	N-D	N-D	N-D	N-D
	PENTACHLOROPHENOL	2.1	N-D	N-D	N-D	N-D
	PHENOL	38.7	2.1	1.6	.5	N-D
BASE-NEUTRALS	ACENAPHTHENE	77.3	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	16.2	10.6	4.4	1.9	4.3
	1,3-DICHLOROBENZENE	.7	.6	.6	N-D	N-D
	1,4-DICHLOROBENZENE	1.8	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.1	N-D	.1	N-D
	BIS(2-CHLOROETHYOXY) METHANE	11.6	1.3	1.3	N-D	N-D
	NAPHTHALENE	9.1	.3	N-D	.3	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.4	.2	N-D	.2	N-D
	BUTYL BENZYL PHTHALATE	N-D	.1	N-D	.1	N-D
	DI-N-BUTYL PHTHALATE	2.8	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	6.0	8.5	8.5	N-D	N-D
	FLUORENE	.7	N-D	N-D	N-D	N-D
	PHENANTHRENE	N-D	.1	N-D	.1	N-D
METALS	ANTIMONY	3.9	1.9	1.9	N-D	N-D
	ARSENIC	N-D	3.4	N-D	.7	2.7
	BERYLLIUM	N-D	L 0.1	N-D	L 0.1	L 0.1
	CADMIUM	2.5	1.9	N-D	.1	1.8
	CHROMIUM	38.7	77.1	9.1	10.4	57.6
	COPPER	35.2	16.7	9.1	2.2	5.4
	CYANIDE	26.4	23.6	10.7	5.7	7.2
	LEAD	17.6	1.5	N-D	1.5	N-D

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L=LESS THAN;   N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810225 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	20.7	40.6	18.6	1.1	20.9
	SILVER	2.1	1.2	.3	.2	.7
	ZINC	130	79.2	56.8	11.2	11.2
NON-CONV. METALS	ALUMINUM	1350	-	177	NOT RUN	NOT RUN
	BARIUM	38.7	-	11.4	NOT RUN	NOT RUN
	BORON	52.7	-	30.3	NOT RUN	NOT RUN
	CALCIUM	18279	-	16080	NOT RUN	NOT RUN
	COBALT	8.4	-	6.6	NOT RUN	NOT RUN
	IRON	745	-	167	NOT RUN	NOT RUN
	MAGNESIUM	3164	-	2522	NOT RUN	NOT RUN
	MANGANESE	102	-	75.7	NOT RUN	NOT RUN
	MOLYBDENUM	7.4	-	6.0	NOT RUN	NOT RUN
	SODIUM	92451	-	96479	NOT RUN	NOT RUN
	TITANIUM	8.1	-	N-D	NOT RUN	NOT RUN
	VANADIUM	2.1	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810226 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	118443	-	NOT RUN	30071	158337
	TOTAL SUSP. SOLIDS	75594	250856	34022	27550	189284
	COD	257787	409347	68667	74387	266293
	OIL & GREASE	11148	17620	N-D	3909	13711
NON-CONVENTIONALS	TOTAL PHENOLS	303	49.9	39.0	2.8	8.1
	TOTAL SOLIDS	449385	607766	355822	29913	222031
	TOTAL DISS. SOLIDS	372746	356563	321489	2327	32747
	TOTAL VOLATILE SOLIDS	101373	227516	69604	17568	140344
	VOLATILE DISS. SOLIDS	56434	58733	52437	538	5758
	TOTAL VOL. SUS. SOLIDS	44939	168846	17167	17093	134586
	AMMONIA NITROGEN	7316	4686	4058	52.2	576
	TOC	78381	430683	50252	20575	359856
VOLATILES	BENZENE	3.8	1.2	1.2	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	.2	N-D	.2	N-D
	CHLOROFORM	29.6	9.7	8.7	L 0.1	.9
	ETHYLBENZENE	8.0	1.6	1.2	L 0.1	.3
	METHYLENE CHLORIDE	7.3	8.1	8.1	L 0.1	N-D
	TETRACHLOROETHYLENE	11.1	1.6	.9	.3	.4
	TOLUENE	41.8	8.5	6.9	.4	1.2
	TRICHLOROETHYLENE	16.7	3.6	3.4	.2	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	.3	.3	N-D	N-D
	2-CHLOROPHENOL	N-D	.3	.3	N-D	N-D
	2,4-DICHLOROPHENOL	N-D	.6	.6	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	4.4	4.4	N-D	N-D
	2-NITROPHENOL	N-D	.9	.9	N-D	N-D
	PHENOL	66.2	21.2	21.2	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	.7	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	31.7	19.5	15.0	1.9	2.6
	1,3-DICHLOROBENZENE	2.1	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	5.2	2.6	2.5	.1	N-D
	NAPHTHALENE	N-D	.4	N-D	.4	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	4.9	.3	N-D	.3	N-D
	DI-N-BUTYL PHTHALATE	4.2	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	2.4	2.2	2.2	N-D	N-D
	ACENAPHTHYLENE	N-D	.6	.6	N-D	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
METALS	ARSENIC	N-D	4.9	N-D	.2	4.7
	BERYLLIUM	N-D	.5	N-D	.1	.4
	CADMIUM	N-D	3.4	N-D	.5	2.9
	CHROMIUM	24.4	185	13.7	58.6	112
	COPPER	28.9	72.3	13.1	30.1	29.1
	CYANIDE	26.1	19.8	9.7	2.0	8.1
	LEAD	22.3	25.0	N-D	9.2	15.8
	MERCURY	.2	L 0.1	N-D	L 0.1	N-D
	NICKEL	29.3	60.2	18.7	17.4	24.1
	SILVER	2.8	7.8	1.6	.8	5.4

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810226 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ZINC	97.5	341	62.4	142	137
NON-CONV. METALS	ALUMINUM	1846	-	877	NOT RUN	NOT RUN
	BARIUM	48.8	-	25.6	NOT RUN	NOT RUN
	BORON	55.7	-	40.6	NOT RUN	NOT RUN
	CALCIUM	17766	-	15918	NOT RUN	NOT RUN
	COBALT	3.8	-	4.4	NOT RUN	NOT RUN
	IRON	1087	-	481	NOT RUN	NOT RUN
	MAGNESIUM	3135	-	2809	NOT RUN	NOT RUN
	MANGANESE	105	-	81.2	NOT RUN	NOT RUN
	MOLYBDENUM	5.2	-	4.1	NOT RUN	NOT RUN
	SODIUM	114959	-	90204	NOT RUN	NOT RUN
	TITANIUM	8.7	-	5.6	NOT RUN	NOT RUN
	VANADIUM	3.1	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810227 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	133333	145734	21359	12820	111555
	TOTAL SUSP. SOLIDS	83902	264840	14432	20100	230308
	COD	263415	523344	60613	102875	359856
	OIL & GREASE	13333	25292	1443	5460	18389
NON-CONVENTIONALS	TOTAL PHENOLS	260	51.0	39.0	2.5	9.5
	TOTAL SOLIDS	461780	619769	329043	22633	268093
	TOTAL DISS. SOLIDS	377236	354850	314612	2453	37785
	TOTAL VOLATILE SOLIDS	152520	292303	97270	12946	182087
	VOLATILE DISS. SOLIDS	93008	93515	86013	665	6837
	TOTAL VOL. SUS. SOLIDS	59512	198789	11257	12282	175250
	AMMONIA NITROGEN	5203	3557	2886	58.6	612
	TOC	119675	116084	28286	15827	71971
VOLATILES	BENZENE	5.2	.9	.9	L 0.1	N-D
	CHLOROBENZENE	2.6	N-D	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	3.6	.3	.3	N-D	N-D
	1,1-DICHLOROETHANE	1.0	N-D	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	.7	L 0.1	N-D	L 0.1	N-D
	1,1,2,2-TETRACHLOROETHANE	1.6	N-D	N-D	N-D	N-D
	CHLOROFORM	40.8	14.5	13.3	.2	1.0
	1,2-TRANS-DICHLOROETHYLENE	1.0	N-D	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	.3	N-D	N-D	N-D	N-D
	ETHYLBENZENE	9.4	1.7	1.2	L 0.1	.4
	METHYLENE CHLORIDE	14.6	21.6	21.6	N-D	N-D
	CHLORODIBROMOMETHANE	.3	N-D	N-D	N-D	N-D
	TETRACHLOROETHYLENE	13.0	1.0	.6	L 0.1	.3
	TOLUENE	84.6	12.5	10.1	.6	1.8
	TRICHLOROETHYLENE	5.5	.4	.3	.1	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	.3	.3	N-D	N-D
	2,4-DICHLOROPHENOL	N-D	.9	.9	N-D	N-D
	PHENOL	28.0	2.3	1.7	.6	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	12.5	12.4	L 0.1	N-D
	1,2,4-TRICHLOROBENZENE	16.9	15.1	4.0	2.8	8.3
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	1.3	1.4	1.4	N-D	N-D
	1,4-DICHLOROBENZENE	6.2	.1	N-D	.1	N-D
	FLUORANTHENE	3.6	.2	N-D	.2	N-D
	NAPHTHALENE	N-D	3.8	N-D	.9	2.9
	BIS(2-ETHYLHEXYL) PHTHALATE	N-D	24.5	2.3	22.2	N-D
	BUTYL BENZYL PHTHALATE	N-D	L 0.1	N-D	L 0.1	N-D
	DI-N-BUTYL PHTHALATE	21.8	1.7	1.7	N-D	N-D
	DIETHYL PHTHALATE	5.9	10.7	10.7	N-D	N-D
	1,2-BENZANTHRACENE	19.2	N-D	N-D	N-D	N-D
	ANTHRACENE	2.0	L 0.1	N-D	L 0.1	N-D
	FLUORENE	1.3	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	2.0	.2	N-D	.2	N-D
	PYRENE	2.9	.2	N-D	.2	N-D

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POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810227 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	N-D	17.0	N-D	.8	16.2
	BERYLLIUM	.7	.5	N-D	L 0.1	.4
	CADMIUM	N-D	3.1	N-D	.2	2.9
	CHROMIUM	58.5	155	5.5	10.4	140
	COPPER	28.6	49.2	N-D	6.0	43.2
	CYANIDE	20.5	37.3	24.0	1.7	11.6
	LEAD	N-D	33.0	N-D	4.6	28.4
	MERCURY	.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	28.0	50.5	19.3	2.8	28.4
	SILVER	2.3	9.4	.3	.8	8.3
	ZINC	84.4	193	28.3	20.6	144
NON-CONV. METALS	ALUMINUM	2085	-	141	NOT RUN	NOT RUN
	BARIUM	45.5	-	9.2	NOT RUN	NOT RUN
	BORON	55.3	-	34.6	NOT RUN	NOT RUN
	CALCIUM	14260	-	13566	NOT RUN	NOT RUN
	COBALT	4.2	-	5.2	NOT RUN	NOT RUN
	IRON	747	-	156	NOT RUN	NOT RUN
	MAGNESIUM	2927	-	2598	NOT RUN	NOT RUN
	MANGANESE	87.8	-	57.7	NOT RUN	NOT RUN
	MOLYBDENUM	N-D	-	2.9	NOT RUN	NOT RUN
	SODIUM	98537	-	91208	NOT RUN	NOT RUN
	TITANIUM	9.1	-	N-D	NOT RUN	NOT RUN
	VANADIUM	1.6	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	20.2	-	N-D	NOT RUN	NOT RUN

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810228 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	81890	62494	1869	6647	53978
	TOTAL SUSP. SOLIDS	81890	356169	12815	48272	295082
	COD	209274	534686	42716	60143	431827
	OIL & GREASE	6976	23872	1335	6236	16301
NON-CONVENTIONALS	TOTAL PHENOLS	227	45.5	34.7	2.2	8.6
	TOTAL SOLIDS	370020	816734	432502	50646	333586
	TOTAL DISS. SOLIDS	286917	460672	419153	2295	39224
	TOTAL VOLATILE SOLIDS	120105	386237	118804	28489	238944
	VOLATILE DISS. SOLIDS	72184	118868	108926	586	9356
	TOTAL VOL. SUS. SOLIDS	47921	267322	9878	27856	229588
	AMMONIA NITROGEN	5763	3608	2937	58.6	612
	TOC	74307	105920	18955	11395	75570
VOLATILES	BENZENE	3.0	.8	.8	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	1.8	.3	.3	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	28.8	10.6	9.6	.2	.8
	1,2-TRANS-DICHLOROETHYLENE	1.2	N-D	N-D	N-D	N-D
	ETHYLBENZENE	10.9	.4	N-D	L 0.1	.3
	METHYLENE CHLORIDE	NOT RUN	12.8	12.8	L 0.1	N-D
	TETRACHLOROETHYLENE	10.6	.6	.5	.1	N-D
	TOLUENE	75.8	15.4	13.3	.7	1.4
	TRICHLOROETHYLENE	1.5	L 0.1	N-D	L 0.1	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	N-D	.3	.3	N-D	N-D
	2,4-DIMETHYLPHENOL	5.5	2.1	2.1	N-D	N-D
	PHENOL	33.4	2.9	2.4	.5	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.3	.3	N-D	N-D
	1,2,4-TRICHLOROBENZENE	17.3	10.7	4.0	1.3	5.4
	1,2-DICHLOROBENZENE	N-D	.3	N-D	.3	N-D
	1,3-DICHLOROBENZENE	2.4	.5	.5	N-D	N-D
	1,4-DICHLOROBENZENE	10.6	2.9	2.9	N-D	N-D
	FLUORANTHENE	.3	.2	N-D	.2	N-D
	NAPHTHALENE	N-D	4.0	N-D	.9	3.1
	BIS(2-ETHYLHEXYL) PHTHALATE	10.9	203	1.3	7.6	194
	DI-N-BUTYL PHTHALATE	2.7	5.1	5.1	N-D	N-D
	DI-N-OCTYL PHTHALATE	2.1	.3	N-D	.3	N-D
	DIETHYL PHTHALATE	5.8	3.7	3.7	N-D	N-D
	DIMETHYL PHTHALATE	5.2	3.5	3.5	N-D	N-D
	CHRYSENE	.6	N-D	N-D	N-D	N-D
	ANTHRACENE	1.5	N-D	N-D	N-D	N-D
	FLUORENE	3.6	.3	.3	N-D	N-D
	PHENANTHRENE	1.5	.1	N-D	.1	N-D
	PYRENE	2.1	.2	N-D	.2	N-D
METALS	ANTIMONY	3.6	L 0.1	N-D	L 0.1	N-D
	ARSENIC	3.9	9.6	N-D	1.7	7.9
	BERYLLIUM	N-D	.3	N-D	L 0.1	.3
	CADMIUM	N-D	2.3	N-D	.1	2.2

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810228 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	130	150	5.6	11.1	133
	COPPER	28.2	44.2	3.5	5.1	35.6
	CYANIDE	93.7	171	161	1.9	8.5
	LEAD	N-D	38.1	15.2	3.8	19.1
	MERCURY	.2	L 0.1	N-D	L 0.1	N-D
	NICKEL	20.0	46.3	16.3	2.7	27.3
	SILVER	1.8	7.8	.3	.7	6.8
	ZINC	97.1	172	20.8	20.6	130
NON-CONV. METALS	ALUMINUM	2890	-	107	NOT RUN	NOT RUN
	BARIUM	45.5	-	6.4	NOT RUN	NOT RUN
	BORON	51.6	-	25.6	NOT RUN	NOT RUN
	CALCIUM	14558	-	12014	NOT RUN	NOT RUN
	COBALT	5.5	-	2.9	NOT RUN	NOT RUN
	IRON	1204	-	117	NOT RUN	NOT RUN
	MAGNESIUM	2730	-	2136	NOT RUN	NOT RUN
	MANGANESE	100	-	50.7	NOT RUN	NOT RUN
	SODIUM	80373	-	78224	NOT RUN	NOT RUN
	TITANIUM	11.2	-	N-D	NOT RUN	NOT RUN
	VANADIUM	2.1	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810301 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	105704	196252	7977	4748	183527
	TOTAL SUSP. SOLIDS	88688	456966	5539	44790	406637
	COD	162422	535552	26589	41150	467813
	OIL & GREASE	3352	17566	1994	2437	13135
NON-CONVENTIONALS	TOTAL PHENOLS	235	37.5	26.6	2.8	8.1
	TOTAL SOLIDS	350626	698628	216038	47164	435426
	TOTAL DISS. SOLIDS	260392	242789	210499	2422	29868
	TOTAL VOLATILE SOLIDS	106735	396340	29470	25007	341863
	VOLATILE DISS. SOLIDS	52078	30899	25260	601	5038
	TOTAL VOL. SUS. SOLIDS	54656	365409	4210	24374	336825
	AMMONIA NITROGEN	6445	3744	3102	66.5	576
	TOC	61875	39244	11522	2532	25190
VOLATILES	BENZENE	3.1	.4	.4	N-D	N-D
	1,1,1-TRICHLOROETHANE	1.0	N-D	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	.1	N-D	.1	N-D
	CHLOROFORM	N-D	5.0	4.9	.1	N-D
	1,1-DICHLOROETHYLENE	15.5	N-D	N-D	N-D	N-D
	1,2-DICHLOROPROPANE	.3	N-D	N-D	N-D	N-D
	ETHYLBENZENE	N-D	1.0	.9	L 0.1	N-D
	METHYLENE CHLORIDE	3.1	10.7	10.6	L 0.1	N-D
	METHYL CHLORIDE	90.2	N-D	N-D	N-D	N-D
	TETRACHLOROETHYLENE	4.6	L 0.1	N-D	L 0.1	N-D
	TOLUENE	67.0	6.2	5.5	.7	N-D
	TRICHLOROETHYLENE	36.1	.6	.4	.2	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	1.8	N-D	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	1.8	2.7	2.7	N-D	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	L 0.1	N-D	L 0.1	N-D
	1,2,4-TRICHLOROBENZENE	7.2	11.7	6.4	1.0	4.3
	1,3-DICHLOROBENZENE	.8	2.4	2.4	N-D	N-D
	1,4-DICHLOROBENZENE	3.1	N-D	N-D	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	.5	N-D	N-D	N-D	N-D
	FLUORANTHENE	3.1	.2	N-D	.2	N-D
	NAPHTHALENE	N-D	2.7	N-D	.5	2.2
	N-NITROSODI-N-PROPYLAMINE	7.2	N-D	N-D	N-D	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	11.9	1.8	1.8	N-D	N-D
	DI-N-BUTYL PHTHALATE	6.4	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	5.4	3.8	3.8	N-D	N-D
	CHRYSENE	1.0	N-D	N-D	N-D	N-D
	ANTHRACENE	1.0	N-D	N-D	N-D	N-D
	FLUORENE	1.3	.2	.2	N-D	N-D
	PHENANTHRENE	1.0	.1	N-D	.1	N-D
	PYRENE	2.8	.1	N-D	.1	N-D
METALS	ANTIMONY	N-D	3.4	N-D	.5	2.9
	ARSENIC	3.6	6.0	N-D	2.4	3.6
	BERYLLIUM	N-D	.6	N-D	L 0.1	.5
	CADMIUM	N-D	2.8	N-D	.3	2.5

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810301 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	12.4	156	N-D	30.1	126
	COPPER	14.7	61.0	10.2	11.2	39.6
	CYANIDE	8.5	47.1	37.7	1.6	7.8
	LEAD	15.7	30.7	N-D	6.6	24.1
	MERCURY	L 0.1	.1	L 0.1	L 0.1	N-D
	NICKEL	N-D	33.1	N-D	4.0	29.1
	SELENIUM	N-D	.1	N-D	.1	N-D
	SILVER	1.0	8.7	N-D	1.1	7.6
	ZINC	51.6	172	12.6	39.6	119
NON-CONV. METALS	ALUMINUM	4383	-	55.4	NOT RUN	NOT RUN
	BARIUM	33.5	-	4.7	NOT RUN	NOT RUN
	BORON	36.1	-	28.8	NOT RUN	NOT RUN
	CALCIUM	13664	-	9971	NOT RUN	NOT RUN
	COBALT	3.1	-	2.9	NOT RUN	NOT RUN
	IRON	1103	-	86.4	NOT RUN	NOT RUN
	MAGNESIUM	2578	-	1773	NOT RUN	NOT RUN
	MANGANESE	129	-	48.7	NOT RUN	NOT RUN
	MOLYBDENUM	N-D	-	2.7	NOT RUN	NOT RUN
	SODIUM	76055	-	59161	NOT RUN	NOT RUN
	TITANIUM	14.2	-	N-D	NOT RUN	NOT RUN
	VANADIUM	2.3	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810302 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	45819	77391	3479	5539	68373
	TOTAL SUSP. SOLIDS	29421	319951	4707	44632	270612
	COD	103696	397535	16987	85466	295082
	OIL & GREASE	4341	12366	409	4400	7557
NON-CONVENTIONALS	TOTAL PHENOLS	229	19.1	9.2	3.8	6.1
	TOTAL SOLIDS	262857	544133	191365	46531	306237
	TOTAL DISS. SOLIDS	233437	224246	186657	1963	35626
	TOTAL VOLATILE SOLIDS	50401	262171	17192	26906	218073
	VOLATILE DISS. SOLIDS	30385	20655	14327	570	5758
	TOTAL VOL. SUS. SOLIDS	20016	241453	2865	26273	212315
	AMMONIA NITROGEN	7958	3950	3275	63.3	612
	TOC	40996	22207	7368	3324	11515
VOLATILES	BENZENE	2.9	.4	.4	N-D	N-D
	CHLOROBENZENE	.5	N-D	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	5.8	N-D	N-D	N-D	N-D
	CHLOROFORM	3.4	3.6	3.5	L 0.1	N-D
	ETHYLBENZENE	2.9	L 0.1	N-D	L 0.1	N-D
	METHYLENE CHLORIDE	28.9	17.3	17.2	.1	N-D
	TETRACHLOROETHYLENE	3.9	N-D	N-D	N-D	N-D
	TOLUENE	74.8	1.5	.8	.7	N-D
	TRICHLOROETHYLENE	2.9	.1	N-D	.1	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	.5	N-D	N-D	N-D	N-D
	PHENOL	37.5	2.2	1.8	.4	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.2	.2	N-D	N-D
	1,2,4-TRICHLOROBENZENE	1.2	6.1	1.6	1.3	3.2
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	.7	.2	.2	N-D	N-D
	1,4-DICHLOROBENZENE	N-D	L 0.1	N-D	L 0.1	N-D
	FLUORANTHENE	.5	.4	N-D	.4	N-D
	NAPHTHALENE	N-D	.9	N-D	.9	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.2	1.3	.6	.7	N-D
	BUTYL BENZYL PHTHALATE	N-D	.2	N-D	.2	N-D
	DI-N-BUTYL PHTHALATE	.5	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	.5	.4	.4	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.1	N-D	.1	N-D
	CHRYSENE	N-D	.1	N-D	.1	N-D
	ANTHRACENE	.2	.2	N-D	.2	N-D
	FLUORENE	.2	.3	.2	.1	N-D
	PHENANTHRENE	.2	.3	N-D	.3	N-D
	PYRENE	.5	.3	N-D	.3	N-D
METALS	ANTIMONY	N-D	.3	N-D	.3	N-D
	ARSENIC	N-D	4.3	N-D	1.7	2.6
	BERYLLIUM	N-D	.5	N-D	.2	.3
	CADMIUM	N-D	2.2	N-D	.4	1.8
	CHROMIUM	10.4	160	N-D	38.0	122
	COPPER	12.5	67.6	2.7	25.3	39.6

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810302 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CYANIDE	6.0	17.8	13.7	1.3	2.8
	LEAD	N-D	35.8	N-D	14.2	21.6
	MERCURY	L 0.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	17.1	38.9	N-D	11.9	27.0
	SILVER	.5	10.9	N-D	1.9	9.0
	ZINC	26.5	194	7.8	77.6	108
NON-CONV. METALS	ALUMINUM	649	-	49.1	NOT RUN	NOT RUN
	BARIUM	17.4	-	3.9	NOT RUN	NOT RUN
	BORON	14.2	-	14.3	NOT RUN	NOT RUN
	CALCIUM	10852	-	8801	NOT RUN	NOT RUN
	COBALT	1.7	-	2.0	NOT RUN	NOT RUN
	IRON	444	-	40.9	NOT RUN	NOT RUN
	MAGNESIUM	2170	-	1842	NOT RUN	NOT RUN
	MANGANESE	74.8	-	45.0	NOT RUN	NOT RUN
	SODIUM	66076	-	58740	NOT RUN	NOT RUN
	TITANIUM	3.1	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN; N-D-NOT DETECTED.

MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810302 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	258	15.2	273
	TOTAL SUSP. SOLIDS	578	95.5	674
	COD	916	115	1031
	OIL & GREASE	28.3	5.7	34.1
NON-CONVENTIONALS	TOTAL PHENOLS	.3	L 0.1	.4
	TOTAL SOLIDS	1899	440	2339
	TOTAL DISS. SOLIDS	1324	345	1669
	TOTAL VOLATILE SOLIDS	599	59.7	659
	VOLATILE DISS. SOLIDS	270	37.0	307
	TOTAL VOL. SUS. SOLIDS	329	22.7	352
	AMMONIA NITROGEN	90.0	25.0	115
	TOC	321	50.0	371
VOLATILES	BENZENE	L 0.1	L 0.1	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	1,1,1-TRICHLOROETHANE	L 0.1	N-D	L 0.1
	CHLOROFORM	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	.3	N-D	.3
	METHYLENE CHLORIDE	L 0.1	L 0.1	L 0.1
	TOLUENE	.1	L 0.1	.1
ACID EXTRACT	2,4-DIMETHYLPHENOL	N-D	L 0.1	L 0.1
	PHENOL	L 0.1	L 0.1	L 0.1
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,3-DICHLOROBENZENE	L 0.1	L 0.1	L 0.1
	1,4-DICHLOROBENZENE	L 0.1	L 0.1	L 0.1
	1,2-DIPHENYLHYDRAZINE	L 0.1	N-D	L 0.1
	FLUORANTHENE	L 0.1	L 0.1	L 0.1
	BIS(2-CHLOROETHYOXY) METHANE	N-D	L 0.1	L 0.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-BUTYL PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-OCTYL PHTHALATE	L 0.1	L 0.1	L 0.1
	DIETHYL PHTHALATE	L 0.1	L 0.1	L 0.1
	CHRYSENE	L 0.1	L 0.1	L 0.1
	ANTHRACENE	N-D	L 0.1	L 0.1
	FLUORENE	L 0.1	L 0.1	L 0.1
	PHENANTHRENE	N-D	L 0.1	L 0.1
	PYRENE	L 0.1	L 0.1	L 0.1
METALS	ARSENIC	L 0.1	L 0.1	L 0.1
	CADMIUM	L 0.1	N-D	L 0.1
	CHROMIUM	.3	L 0.1	.3
	COPPER	.2	L 0.1	.2
	CYANIDE	L 0.1	L 0.1	L 0.1
	LEAD	.1	L 0.1	.1
	MERCURY	L 0.1	L 0.1	L 0.1
	NICKEL	.1	L 0.1	.1
	SILVER	L 0.1	L 0.1	L 0.1
	ZINC	.6	L 0.1	.7

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810302 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
NON-CONV. METALS	ALUMINUM	12.5	1.8	14.3
	BARIUM	.3	L 0.1	.4
	BORON	.2	L 0.1	.2
	CALCIUM	217	66.5	283
	COBALT	L 0.1	L 0.1	L 0.1
	IRON	9.0	1.6	10.6
	MAGNESIUM	32.5	9.7	42.2
	MANGANESE	2.1	.5	2.6
	MOLYBDENUM	L 0.1	N-D	L 0.1
	SODIUM	216	65.2	281
	VANADIUM	L 0.1	N-D	L 0.1
	YTTRIUM	L 0.1	L 0.1	L 0.1

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810303 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	139969	85631	7962	5698	71971
	TOTAL SUSP. SOLIDS	67185	240687	6864	26906	206917
	COD	258165	355788	71385	64891	219512
	OIL & GREASE	5910	17452	824	5508	11120
NON-CONVENTIONALS	TOTAL PHENOLS	156	23.6	15.9	1.8	5.9
	TOTAL SOLIDS	401244	539798	269889	28805	241104
	TOTAL DISS. SOLIDS	332815	299142	263025	1931	34186
	TOTAL VOLATILE SOLIDS	97978	202520	29652	17410	155458
	VOLATILE DISS. SOLIDS	52877	30302	24710	554	5038
	TOTAL VOL. SUS. SOLIDS	45101	172139	4942	16777	150420
	AMMONIA NITROGEN	6843	5342	4393	85.5	864
	TOC	88647	30961	12904	1504	16553
VOLATILES	BENZENE	2.5	.3	.3	N-D	N-D
	1,1,1-TRICHLOROETHANE	3.1	L 0.1	N-D	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	.6	.5	.1	N-D
	CHLOROFORM	34.2	12.1	11.0	N-D	1.1
	ETHYLBENZENE	5.3	.4	.3	.1	N-D
	METHYLENE CHLORIDE	37.3	25.5	25.5	N-D	N-D
	TRICHLOROFLUOROMETHANE	1.9	N-D	N-D	N-D	N-D
	TETRACHLOROETHYLENE	10.6	L 0.1	N-D	L 0.1	N-D
	TOLUENE	71.5	3.5	2.7	.8	N-D
	TRICHLOROETHYLENE	4.0	.5	.3	.2	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	.9	N-D	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	.5	.5	N-D	N-D
	PHENOL	84.0	.2	N-D	.2	N-D
BASE-NEUTRALS	ACENAPHTHENE	.6	.1	N-D	.1	N-D
	1,2,4-TRICHLOROBENZENE	3.4	2.0	1.1	.9	N-D
	BIS(2-CHLOROETHYL) ETHER	1.2	N-D	N-D	N-D	N-D
	1,3-DICHLOROBENZENE	1.6	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	3.4	N-D	N-D	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	.3	N-D	N-D	N-D	N-D
	FLUORANTHENE	.6	.3	N-D	.3	N-D
	NAPHTHALENE	N-D	1.0	N-D	1.0	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	1.6	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	.6	.8	.8	N-D	N-D
	DI-N-OCTYL PHTHALATE	N-D	15.6	15.6	N-D	N-D
	DIETHYL PHTHALATE	.3	1.9	1.9	N-D	N-D
	DIMETHYL PHTHALATE	N-D	7.7	7.7	N-D	N-D
	1,2-BENZANTHRACENE	N-D	L 0.1	N-D	L 0.1	N-D
	CHRYSENE	N-D	L 0.1	N-D	L 0.1	N-D
	ANTHRACENE	N-D	.1	N-D	.1	N-D
	FLUORENE	.6	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	PYRENE	.6	.3	N-D	.3	N-D
METALS	ANTIMONY	5.3	2.4	N-D	.2	2.2
	ARSENIC	N-D	3.9	N-D	.6	3.3

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810303 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	BERYLLIUM	1.2	.8	N-D	.2	.6
	CADMIUM	12.4	10.2	8.0	.4	1.8
	CHROMIUM	43.5	154	5.2	26.9	122
	COPPER	24.3	59.5	4.4	15.5	39.6
	CYANIDE	39.5	44.1	41.7	.8	1.6
	LEAD	23.0	44.3	14.3	8.4	21.6
	MERCURY	.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	17.4	48.4	16.2	6.3	25.9
	SILVER	2.2	9.4	.3	1.9	7.2
	ZINC	96.4	181	14.6	47.5	119
NON-CONV. METALS	ALUMINUM	1036	-	85.1	NOT RUN	NOT RUN
	BARIUM	46.7	-	6.6	NOT RUN	NOT RUN
	BORON	49.8	-	18.7	NOT RUN	NOT RUN
	CALCIUM	16174	-	12355	NOT RUN	NOT RUN
	COBALT	2.2	-	2.7	NOT RUN	NOT RUN
	IRON	827	-	26.6	NOT RUN	NOT RUN
	MAGNESIUM	2799	-	2471	NOT RUN	NOT RUN
	MANGANESE	93.3	-	63.1	NOT RUN	NOT RUN
	SODIUM	97045	-	87858	NOT RUN	NOT RUN
	TITANIUM	N-D	-	19.8	NOT RUN	NOT RUN
	YTTRIUM	3.1	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810304 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	133017	115448	14580	10904	89964
	TOTAL SUSP. SOLIDS	115598	225902	8692	21808	195402
	COD	285036	403975	67293	52396	284286
	OIL & GREASE	10451	19831	1122	3271	15438
NON-CONVENTIONALS	TOTAL PHENOLS	133	30.0	22.4	1.3	6.3
	TOTAL SOLIDS	516232	560507	308426	23932	228149
	TOTAL DISS. SOLIDS	399050	334886	300015	2124	32747
	TOTAL VOLATILE SOLIDS	114331	182497	21309	14727	146461
	VOLATILE DISS. SOLIDS	47506	21137	14580	439	6118
	TOTAL VOL. SUS. SOLIDS	66825	161376	6729	14303	140344
	AMMONIA NITROGEN	6334	4624	3925	51.0	648
	TOC	106097	41826	22431	1402	17993
VOLATILES	BENZENE	3.5	1.1	1.1	N-D	N-D
	1,1,1-TRICHLOROETHANE	2.2	.6	.6	N-D	N-D
	CHLOROFORM	27.2	14.0	12.9	L 0.1	1.0
	ETHYLBENZENE	7.9	4.0	3.9	L 0.1	N-D
	METHYLENE CHLORIDE	45.6	8.6	8.4	.2	N-D
	TETRACHLOROETHYLENE	12.0	4.8	4.5	.3	N-D
	TOLUENE	53.8	8.1	7.6	.5	N-D
	TRICHLOROETHYLENE	2.5	.7	.6	L 0.1	N-D
ACID EXTRACT	2,4-DIMETHYLPHENOL	1.9	N-D	N-D	N-D	N-D
	PHENOL	47.5	3.7	3.4	.3	N-D
BASE-NEUTRALS	ACENAPHTHENE	.6	N-D	N-D	N-D	N-D
	1,2,4-TRICHLOROBENZENE	4.1	5.0	1.1	.8	3.1
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	1.9	.3	.3	N-D	N-D
	1,4-DICHLOROBENZENE	1.9	.7	.6	.1	N-D
	1,2-DIPHENYLHYDRAZINE	.3	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	.3	N-D	.3	N-D
	NAPHTHALENE	N-D	3.4	N-D	.6	2.8
	BIS(2-ETHYLHEXYL) PHTHALATE	1.9	1.1	1.1	N-D	N-D
	DI-N-BUTYL PHTHALATE	1.0	.3	.3	N-D	N-D
	DIETHYL PHTHALATE	.3	.3	.3	N-D	N-D
	1,2-BENZANTHRACENE	N-D	.1	N-D	.1	N-D
	CHRYSENE	N-D	L 0.1	N-D	L 0.1	N-D
	ANTHRACENE	.3	L 0.1	N-D	L 0.1	N-D
	FLUORENE	.6	.3	.3	N-D	N-D
	PHENANTHRENE	N-D	.2	N-D	.2	N-D
	INDENO(1,2,3-C,D) PYRENE	N-D	.2	N-D	.2	N-D
METALS	ANTIMONY	N-D	.2	N-D	.2	N-D
	ARSENIC	4.4	3.4	N-D	.2	3.2
	BERYLLIUM	3.8	.5	N-D	L 0.1	.5
	CADMIUM	6.3	5.4	3.4	.2	1.8
	CHROMIUM	34.8	151	4.2	14.2	133
	COPPER	26.0	53.0	N-D	6.2	46.8
	CYANIDE	7.0	28.5	25.5	1.8	1.2

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810304 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	LEAD	21.2	28.5	N-D	4.0	24.5
	MERCURY	L 0.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	53.8	55.3	25.2	3.1	27.0
	SILVER	2.2	11.8	.3	.7	10.8
	ZINC	127	169	17.7	21.2	130
NON-CONV. METALS	ALUMINUM	3120	-	143	NOT RUN	NOT RUN
	BARIUM	57.0	-	6.2	NOT RUN	NOT RUN
	BORON	44.3	-	27.2	NOT RUN	NOT RUN
	CALCIUM	15519	-	12337	NOT RUN	NOT RUN
	COBALT	2.9	-	N-D	NOT RUN	NOT RUN
	IRON	890	-	89.7	NOT RUN	NOT RUN
	MAGNESIUM	3167	-	2523	NOT RUN	NOT RUN
	MANGANESE	91.8	-	58.9	NOT RUN	NOT RUN
	MOLYBDENUM	6.0	-	N-D	NOT RUN	NOT RUN
	SODIUM	110847	-	91406	NOT RUN	NOT RUN
	TITANIUM	N-D	-	15.7	NOT RUN	NOT RUN
	VANADIUM	3.8	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	72.8	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810305 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	NOT RUN	157880	22459	2274	133147
	TOTAL SUSP. SOLIDS	NOT RUN	320862	14031	26423	279608
	COD	NOT RUN	636996	97462	35736	503798
	OIL & GREASE	NOT RUN	55497	28815	3075	23607
NON-CONVENTIONALS	TOTAL PHENOLS	NOT RUN	48.0	40.3	.9	6.8
	TOTAL SOLIDS	NOT RUN	736916	398746	27614	310556
	TOTAL DISS. SOLIDS	NOT RUN	416087	383915	1224	30948
	TOTAL VOLATILE SOLIDS	NOT RUN	258050	53392	14294	190364
	VOLATILE DISS. SOLIDS	NOT RUN	51414	44917	379	6118
	TOTAL VOL. SUS. SOLIDS	NOT RUN	206582	8475	13861	184246
	AMMONIA NITROGEN	NOT RUN	4178	3390	32.5	756
	TOC	NOT RUN	52364	31781	791	19792
VOLATILES	BENZENE	NOT RUN	1.7	1.7	N-D	N-D
	1,1,1-TRICHLOROETHANE	NOT RUN	2.1	2.1	N-D	N-D
	CHLOROFORM	NOT RUN	18.8	17.8	L 0.1	.9
	ETHYLBENZENE	NOT RUN	7.7	7.6	L 0.1	N-D
	METHYLENE CHLORIDE	NOT RUN	123	123	N-D	N-D
	TETRACHLOROETHYLENE	NOT RUN	4.9	4.7	.2	N-D
	TOLUENE	NOT RUN	24.3	22.0	.3	2.0
	TRICHLOROETHYLENE	NOT RUN	7.2	7.2	L 0.1	N-D
ACID EXTRACT	PHENOL	NOT RUN	220	220	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	NOT RUN	4.2	.4	.6	3.2
	1,3-DICHLOROBENZENE	NOT RUN	.4	.4	N-D	N-D
	FLUORANTHENE	NOT RUN	2.5	N-D	.2	2.3
	NAPHTHALENE	NOT RUN	3.4	N-D	.6	3.0
	BIS(2-ETHYLHEXYL) PHTHALATE	NOT RUN	1.3	1.3	N-D	N-D
	BUTYL BENZYL PHTHALATE	NOT RUN	.2	N-D	.2	N-D
	DI-N-OCTYL PHTHALATE	NOT RUN	.4	.4	N-D	N-D
	DIETHYL PHTHALATE	NOT RUN	6.8	6.8	N-D	N-D
	1,2-BENZANTHRACENE	NOT RUN	L 0.1	N-D	L 0.1	N-D
	11,12-BENZOFLUORANTHENE	NOT RUN	L 0.1	N-D	L 0.1	N-D
	CHRYSENE	NOT RUN	L 0.1	N-D	L 0.1	N-D
	ANTHRACENE	NOT RUN	L 0.1	N-D	L 0.1	N-D
	FLUORENE	NOT RUN	L 0.1	N-D	L 0.1	N-D
	PHENANTHRENE	NOT RUN	.2	N-D	.2	N-D
	PYRENE	NOT RUN	2.2	N-D	.2	2.0
METALS	ANTIMONY	NOT RUN	L 0.1	N-D	L 0.1	N-D
	ARSENIC	NOT RUN	1.0	N-D	.3	.7
	BERYLLIUM	NOT RUN	1.4	N-D	L 0.1	1.4
	CADMIUM	NOT RUN	7.1	3.8	L 0.1	3.2
	CHROMIUM	NOT RUN	199	11.4	4.0	184
	COPPER	NOT RUN	63.9	N-D	2.7	61.2
	CYANIDE	NOT RUN	36.5	28.4	1.2	6.9
	LEAD	NOT RUN	42.4	N-D	2.8	39.6
	MERCURY	NOT RUN	.4	N-D	L 0.1	.3
	NICKEL	NOT RUN	58.2	23.3	1.4	33.5

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810305 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	SILVER	NOT RUN	14.8	.4	.4	14.0
	ZINC	NOT RUN	238	37.3	10.4	191
NON-CONV. METALS	ALUMINUM	NOT RUN	-	258	NOT RUN	NOT RUN
	BARIUM	NOT RUN	-	9.7	NOT RUN	NOT RUN
	BORON	NOT RUN	-	25.8	NOT RUN	NOT RUN
	CALCIUM	NOT RUN	-	16526	NOT RUN	NOT RUN
	COBALT	NOT RUN	-	3.4	NOT RUN	NOT RUN
	IRON	NOT RUN	-	144	NOT RUN	NOT RUN
	MAGNESIUM	NOT RUN	-	3390	NOT RUN	NOT RUN
	MANGANESE	NOT RUN	-	76.3	NOT RUN	NOT RUN
	SODIUM	NOT RUN	-	113564	NOT RUN	NOT RUN

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L-LESS THAN)   N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810306 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	172780	170100	22676	3482	143942
	TOTAL SUSP. SOLIDS	146231	354636	16143	39093	299400
	COD	366631	535115	80713	58560	395842
	OIL & GREASE	6743	29179	1922	2247	25010
NON-CONVENTIONALS	TOTAL PHENOLS	241	90.1	78.8	.9	10.4
	TOTAL SOLIDS	585766	728258	360517	40992	326749
	TOTAL DISS. SOLIDS	438271	373622	344374	1899	27349
	TOTAL VOLATILE SOLIDS	235149	329715	78791	24215	226709
	VOLATILE DISS. SOLIDS	124739	72844	66876	570	5398
	TOTAL VOL. SUS. SOLIDS	110411	256808	11915	23582	221311
	AMMONIA NITROGEN	5057	3230	2690	36.4	504
	TOC	158031	47724	28057	1314	18353
VOLATILES	BENZENE	18.1	8.1	6.9	L 0.1	1.1
	CHLOROBENZENE	1.3	N-D	N-D	N-D	N-D
	1,1,1-TRICHLOROETHANE	4.6	1.2	1.2	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	.1	N-D	.1	N-D
	CHLOROFORM	41.3	17.5	16.1	.1	1.3
	ETHYLBENZENE	7.6	2.0	1.9	.1	N-D
	METHYLENE CHLORIDE	19.8	9.6	9.6	N-D	N-D
	TETRACHLOROETHYLENE	13.9	3.3	1.9	N-D	1.4
	TOLUENE	506	315	258	2.5	54.0
	TRICHLOROETHYLENE	2.5	.7	.4	.3	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	9.3	6.5	6.5	N-D	N-D
	PHENOL	211	18.1	18.1	N-D	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	2.5	4.8	1.5	.6	2.7
	1,3-DICHLOROBENZENE	.8	.8	.8	N-D	N-D
	1,4-DICHLOROBENZENE	2.1	1.2	1.2	N-D	N-D
	1,2-DIPHENYLHYDRAZINE	.4	N-D	N-D	N-D	N-D
	FLUORANTHENE	N-D	2.5	N-D	.3	2.2
	NAPHTHALENE	N-D	3.8	N-D	.6	3.2
	BIS(2-ETHYLHEXYL) PHTHALATE	1.3	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	.8	12.2	N-D	N-D	12.2
	DIETHYL PHTHALATE	.8	1.9	1.9	N-D	N-D
	ANTHRACENE	.4	N-D	N-D	N-D	N-D
	FLUORENE	.4	N-D	N-D	N-D	N-D
	PHENANTHRENE	.4	.2	N-D	.2	N-D
	PYRENE	N-D	2.1	N-D	.2	1.9
METALS	ANTIMONY	N-D	3.4	N-D	.3	3.1
	ARSENIC	4.2	7.2	N-D	.4	6.8
	BERYLLIUM	N-D	1.1	N-D	L 0.1	1.0
	CADMIUM	5.1	5.2	1.9	.4	2.9
	CHROMIUM	143	182	20.0	22.2	140
	COPPER	38.3	61.6	N-D	11.2	50.4
	CYANIDE	25.7	21.9	13.1	1.4	7.4
	LEAD	N-D	43.9	N-D	10.1	33.8
	MERCURY	.2	.4	N-D	.1	.3

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L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810306 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	NICKEL	22.8	36.1	N-D	10.9	25.2
	SILVER	2.5	10.0	.4	1.3	8.3
	ZINC	110	224	15.0	42.7	166
NON-CONV. METALS	ALUMINUM	2853	-	196	NOT RUN	NOT RUN
	BARIUM	54.8	-	8.8	NOT RUN	NOT RUN
	BORON	46.4	-	26.5	NOT RUN	NOT RUN
	CALCIUM	23178	-	17680	NOT RUN	NOT RUN
	COBALT	21.1	-	6.9	NOT RUN	NOT RUN
	IRON	1201	-	76.9	NOT RUN	NOT RUN
	MAGNESIUM	3793	-	3075	NOT RUN	NOT RUN
	MANGANESE	114	-	65.3	NOT RUN	NOT RUN
	MOLYBDENUM	5.1	-	N-D	NOT RUN	NOT RUN
	SODIUM	115046	-	94165	NOT RUN	NOT RUN
	TITANIUM	N-D	-	26.5	NOT RUN	NOT RUN
	VANADIUM	2.5	-	N-D	NOT RUN	NOT RUN
	YTTRIUM	3.8	-	N-D	NOT RUN	NOT RUN

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810307 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	102959	83587	21420	4590	57577
	TOTAL SUSP. SOLIDS	164048	363109	13747	35927	313435
	COD	288285	734831	79926	79135	575770
	OIL & GREASE	16817	32074	1918	252	29904
NON-CONVENTIONALS	TOTAL PHENOLS	299	145	128	1.8	14.9
	TOTAL SOLIDS	511362	703630	326099	37827	339704
	TOTAL DISS. SOLIDS	346628	340121	312032	1820	26269
	TOTAL VOLATILE SOLIDS	202829	324778	55629	21208	247941
	VOLATILE DISS. SOLIDS	93349	51071	44119	475	6477
	TOTAL VOL. SUS. SOLIDS	109480	273705	11509	20733	241463
	AMMONIA NITROGEN	6178	3450	2877	33.2	540
	TOC	123551	56138	31971	2216	21951
VOLATILES	BENZENE	11.7	4.3	4.2	.1	N-D
	CHLOROBENZENE	N-D	1.6	1.6	N-D	N-D
	1,2-DICHLOROETHANE	3.8	.2	N-D	.2	N-D
	1,1,1-TRICHLOROETHANE	50.1	23.7	20.8	.4	2.5
	1,1-DICHLOROETHANE	N-D	.3	N-D	.3	N-D
	1,1,2-TRICHLOROETHANE	N-D	.6	N-D	.6	N-D
	CHLOROFORM	38.8	20.5	18.9	.2	1.4
	1,1-DICHLOROETHYLENE	3.8	1.0	1.0	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	1.4	N-D	N-D	N-D	N-D
	ETHYLBENZENE	17.2	14.8	7.0	.2	7.6
	METHYLENE CHLORIDE	35.7	53.4	29.1	.2	24.1
	TRICHLOROFLUOROMETHANE	1.0	1.9	1.9	N-D	N-D
	TETRACHLOROETHYLENE	4.5	8.9	7.4	N-D	1.5
	TOLUENE	123	70.3	54.3	4.1	11.9
	TRICHLOROETHYLENE	N-D	4.8	2.2	1.3	1.3
	VINYL CHLORIDE	227	N-D	N-D	N-D	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	.3	N-D	N-D	N-D	N-D
	PARACHLOROMETA CRESOL	.7	1.0	1.0	N-D	N-D
	2-CHLOROPHENOL	N-D	.3	.3	N-D	N-D
	2,4-DICHLOROPHENOL	1.4	N-D	N-D	N-D	N-D
	2,4-DIMETHYLPHENOL	N-D	1.6	1.6	N-D	N-D
	4-NITROPHENOL	12.4	7.0	7.0	N-D	N-D
	PENTACHLOROPHENOL	3.1	N-D	N-D	N-D	N-D
	PHENOL	58.3	2.5	2.2	.3	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.2	N-D	.2	N-D
	1,2,4-TRICHLOROBENZENE	1.7	8.1	1.0	1.7	5.4
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	.7	1.0	1.0	N-D	N-D
	1,4-DICHLOROBENZENE	N-D	.1	N-D	.1	N-D
	FLUORANTHENE	N-D	4.2	N-D	.7	3.5
	NAPHTHALENE	9.3	8.7	N-D	1.9	6.8
	BIS(2-ETHYLHEXYL) PHTHALATE	1.7	1.7	N-D	1.7	N-D
	ANTHRACENE	N-D	.1	N-D	.1	N-D
	FLUORENE	N-D	.2	N-D	.2	N-D
	PHENANTHRENE	N-D	.5	N-D	.5	N-D

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L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810307 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ANTIMONY	5.8	.3	N-D	.3	N-D
	ARSENIC	3.4	1.8	N-D	.7	1.1
	BERYLLIUM	1.0	1.0	N-D	L 0.1	.9
	CADMIUM	N-D	4.5	N-D	.5	4.0
	CHROMIUM	48.0	230	11.8	23.7	194
	COPPER	17.8	71.7	N-D	14.1	57.6
	CYANIDE	12.7	26.2	18.5	1.5	6.2
	LEAD	N-D	46.1	N-D	10.1	36.0
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	18.5	32.2	N-D	4.1	28.1
	SILVER	2.4	9.9	.3	1.3	8.3
	ZINC	82.4	241	16.6	44.3	180
NON-CONV. METALS	ALUMINUM	2052	-	166	NOT RUN	NOT RUN
	BARIUM	41.2	-	8.6	NOT RUN	NOT RUN
	BORON	48.0	-	27.8	NOT RUN	NOT RUN
	CALCIUM	18189	-	15026	NOT RUN	NOT RUN
	COBALT	8.9	-	6.7	NOT RUN	NOT RUN
	IRON	1229	-	115	NOT RUN	NOT RUN
	MAGNESIUM	3089	-	2558	NOT RUN	NOT RUN
	MANGANESE	103	-	67.1	NOT RUN	NOT RUN
	MOLYBDENUM	N-D	-	3.5	NOT RUN	NOT RUN
	SODIUM	85456	-	81845	NOT RUN	NOT RUN
	TITANIUM	17.2	-	23.7	NOT RUN	NOT RUN
	VANADIUM	2.4	-	N-D	NOT RUN	NOT RUN

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810308 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	122318	215876	16956	18992	179928
	TOTAL SUSP. SOLIDS	52291	365276	8343	38460	318473
	COD	201824	592550	64594	60143	467813
	OIL & GREASE	7645	108570	538	1155	106877
NON-CONVENTIONALS	TOTAL PHENOLS	266	62.2	51.9	2.2	8.1
	TOTAL SOLIDS	293868	621677	236576	40359	344742
	TOTAL DISS. SOLIDS	241577	256401	228233	1899	26269
	TOTAL VOLATILE SOLIDS	126905	318734	44678	26115	247941
	VOLATILE DISS. SOLIDS	88680	43956	37142	696	6118
	TOTAL VOL. SUS. SOLIDS	38224	274840	7536	25481	241823
	AMMONIA NITROGEN	6116	2631	2153	45.9	432
	TOC	131492	40953	22070	1250	17633
VOLATILES	BENZENE	4.6	1.6	1.6	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	N-D	.9	.8	L 0.1	N-D
	1,1,2-TRICHLOROETHANE	N-D	.2	N-D	.2	N-D
	1,1,2,2-TETRACHLOROETHANE	N-D	.8	.8	N-D	N-D
	CHLOROFORM	18.0	12.7	12.6	.1	N-D
	1,2-TRANS-DICHLOROETHYLENE	.6	N-D	N-D	N-D	N-D
	ETHYLBENZENE	5.2	3.2	3.0	.2	N-D
	METHYLENE CHLORIDE	21.7	40.9	30.1	N-D	10.8
	TRICHLOROFLUOROMETHANE	.9	.5	.5	N-D	N-D
	TETRACHLOROETHYLENE	8.0	1.3	1.3	N-D	N-D
	TOLUENE	79.2	19.8	19.1	.7	N-D
	TRICHLOROETHYLENE	4.3	1.5	1.1	.4	N-D
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	.3	N-D	N-D	N-D	N-D
	PARACHLOROMETA CRESOL	.3	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	2.1	1.9	1.9	N-D	N-D
	4-NITROPHENOL	N-D	8.3	8.3	N-D	N-D
	PENTACHLOROPHENOL	N-D	.5	.5	N-D	N-D
	PHENOL	58.7	17.3	16.7	.6	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	2.1	4.8	1.1	.5	3.2
	1,3-DICHLOROBENZENE	N-D	.3	.3	N-D	N-D
	1,4-DICHLOROBENZENE	N-D	.3	.3	N-D	N-D
	FLUORANTHENE	N-D	.2	N-D	.2	N-D
	NAPHTHALENE	4.0	7.8	N-D	.6	7.2
	BIS(2-ETHYLHEXYL) PHTHALATE	1.8	N-D	N-D	N-D	N-D
	ANTHRACENE	.3	N-D	N-D	N-D	N-D
	PHENANTHRENE	.3	.1	N-D	.1	N-D
	PYRENE	N-D	.1	N-D	.1	N-D
METALS	ANTIMONY	N-D	.2	N-D	.2	N-D
	ARSENIC	N-D	1.3	N-D	.3	1.0
	BERYLLIUM	N-D	.7	N-D	.3	.4
	CADMIUM	N-D	3.5	N-D	.3	3.2
	CHROMIUM	893	597	116	49.1	432
	COPPER	33.6	73.2	3.5	15.7	54.0
	CYANIDE	14.1	13.1	9.4	.2	3.5

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810308 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	LEAD	N-D	43.3	N-D	7.3	36.0
	MERCURY	L 0.1	L 0.1	N-D	L 0.1	N-D
	NICKEL	17.4	30.0	N-D	4.1	25.9
	SILVER	.6	8.6	N-D	1.0	7.6
	ZINC	64.2	209	13.5	38.0	158
NON-CONV. METALS	ALUMINUM	1321	-	96.9	NOT RUN	NOT RUN
	BARIUM	28.4	-	7.0	NOT RUN	NOT RUN
	BORON	30.6	-	19.6	NOT RUN	NOT RUN
	CALCIUM	15596	-	13188	NOT RUN	NOT RUN
	COBALT	3.1	-	3.2	NOT RUN	NOT RUN
	IRON	364	-	83.4	NOT RUN	NOT RUN
	MAGNESIUM	2752	-	2422	NOT RUN	NOT RUN
	MANGANESE	85.6	-	59.2	NOT RUN	NOT RUN
	SODIUM	51985	-	60288	NOT RUN	NOT RUN
	TITANIUM	20.5	-	21.8	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810309 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	46017	135189	4608	8230	122351
	TOTAL SUSP. SOLIDS	35535	240992	4308	21050	215554
	COD	92033	3703413	24135	80710	3598560
	OIL & GREASE	4090	24177	1536	5080	17561
NON-CONVENTIONALS	TOTAL PHENOLS	268	11.3	6.1	2.5	2.7
	TOTAL SOLIDS	198638	399841	141301	22474	236066
	TOTAL DISS. SOLIDS	163103	158553	136913	1488	20152
	TOTAL VOLATILE SOLIDS	51896	190915	10069	12630	159416
	VOLATILE DISS. SOLIDS	25053	20919	15359	522	5038
	TOTAL VOL. SUS. SOLIDS	26843	169997	3511	12108	154378
	AMMONIA NITROGEN	5624	2420	1975	49.1	396
	TOC	38347	23456	5924	2058	15474
VOLATILES	BENZENE	6.4	.7	.7	N-D	N-D
	1,1,1-TRICHLOROETHANE	1.5	.2	.2	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	6.1	2.4	2.4	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	.5	N-D	N-D	N-D	N-D
	ETHYLBENZENE	3.6	.1	N-D	.1	N-D
	METHYLENE CHLORIDE	15.3	8.1	8.1	L 0.1	N-D
	TRICHLOROFLUOROMETHANE	1.3	.4	.4	N-D	N-D
	TETRACHLOROETHYLENE	2.3	N-D	N-D	N-D	N-D
	TOLUENE	137	3.1	2.6	.5	N-D
	TRICHLOROETHYLENE	2.3	.2	N-D	.2	N-D
ACID EXTRACT	2-CHLOROPHENOL	.3	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	7.9	1.3	1.3	N-D	N-D
	PHENOL	69.3	.8	.2	.6	N-D
BASE-NEUTRALS	ACENAPHTHENE	N-D	.1	N-D	.1	N-D
	1,2,4-TRICHLOROBENZENE	1.0	1.9	.7	1.2	N-D
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	.3	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	FLUORANTHENE	.5	.5	N-D	.5	N-D
	NAPHTHALENE	4.3	.9	N-D	.9	N-D
	BIS(2-ETHYLHEXYL) PHTHALATE	2.0	N-D	N-D	N-D	N-D
	DI-N-BUTYL PHTHALATE	2.3	N-D	N-D	N-D	N-D
	DIETHYL PHTHALATE	1.3	.9	.9	N-D	N-D
	CHRYSENE	N-D	.1	N-D	.1	N-D
	ACENAPHTHYLENE	1.5	N-D	N-D	N-D	N-D
	ANTHRACENE	.3	.1	N-D	.1	N-D
	FLUORENE	N-D	.1	N-D	.1	N-D
	PHENANTHRENE	.3	.3	N-D	.3	N-D
	PYRENE	.3	.4	N-D	.4	N-D
METALS	ANTIMONY	N-D	.3	N-D	.3	N-D
	ARSENIC	N-D	2.0	N-D	.6	1.4
	BERYLLIUM	N-D	1.1	N-D	.2	.9
	CADMIUM	N-D	3.6	N-D	.4	3.2

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810309 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	8.2	580	24.1	32.2	504
	COPPER	10.0	64.2	N-D	17.4	46.8
	CYANIDE	N-D	17.8	8.8	2.5	6.5
	LEAD	N-D	41.3	N-D	10.4	30.9
	MERCURY	N-D	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	31.4	N-D	4.4	27.0
	SILVER	.5	6.4	N-D	1.0	5.4
	ZINC	25.4	192	7.7	47.5	137
NON-CONV. METALS	ALUMINUM	795	-	52.7	NOT RUN	NOT RUN
	BARIUM	18.4	-	5.3	NOT RUN	NOT RUN
	BORON	18.4	-	7.7	NOT RUN	NOT RUN
	CALCIUM	12527	-	10532	NOT RUN	NOT RUN
	COBALT	2.8	-	1.8	NOT RUN	NOT RUN
	IRON	332	-	6.8	NOT RUN	NOT RUN
	MAGNESIUM	1790	-	1755	NOT RUN	NOT RUN
	MANGANESE	81.8	-	52.7	NOT RUN	NOT RUN
	SODIUM	35791	-	33789	NOT RUN	NOT RUN
	TITANIUM	14.3	-	12.1	NOT RUN	NOT RUN

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MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810309 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
CONVENTIONALS	BOD	332	11.0	343
	TOTAL SUSP. SOLIDS	1230	96.5	1327
	COD	1283	38.3	1321
	OIL & GREASE	94.5	3.3	97.8
NON-CONVENTIONALS	TOTAL PHENOLS	.1	L 0.1	.2
	TOTAL SOLIDS	2041	352	2392
	TOTAL DISS. SOLIDS	811	255	1065
	TOTAL VOLATILE SOLIDS	974	39.8	1014
	VOLATILE DISS. SOLIDS	261	22.3	283
	TOTAL VOL. SUS. SOLIDS	711	17.5	729
	AMMONIA NITROGEN	53.6	14.2	67.8
	TOC	469	20.0	489
VOLATILES	BENZENE	L 0.1	L 0.1	L 0.1
	CHLOROBENZENE	L 0.1	N-D	L 0.1
	1,1,1-TRICHLOROETHANE	L 0.1	L 0.1	L 0.1
	1,1-DICHLOROETHANE	L 0.1	N-D	L 0.1
	1,2-TRANS-DICHLOROETHYLENE	L 0.1	N-D	L 0.1
	ETHYLBENZENE	.1	L 0.1	.1
	METHYLENE CHLORIDE	L 0.1	L 0.1	L 0.1
	TRICHLOROFLUOROMETHANE	L 0.1	L 0.1	L 0.1
	TOLUENE	L 0.1	L 0.1	.1
ACID EXTRACT	PHENOL	L 0.1	N-D	L 0.1
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	L 0.1	N-D	L 0.1
	1,3-DICHLOROBENZENE	L 0.1	L 0.1	L 0.1
	1,4-DICHLOROBENZENE	L 0.1	N-D	L 0.1
	FLUORANTHENE	L 0.1	N-D	L 0.1
	NAPHTHALENE	L 0.1	N-D	L 0.1
	N-NITROSODIPHENYLAMINE	L 0.1	N-D	L 0.1
	BIS(2-ETHYLHEXYL) PHTHALATE	L 0.1	L 0.1	L 0.1
	DI-N-BUTYL PHTHALATE	L 0.1	N-D	L 0.1
	DI-N-OCTYL PHTHALATE	L 0.1	L 0.1	L 0.1
	DIETHYL PHTHALATE	N-D	L 0.1	L 0.1
	1,2-BENZANTHRACENE	L 0.1	N-D	L 0.1
	ANTHRACENE	L 0.1	L 0.1	L 0.1
	FLUORENE	L 0.1	N-D	L 0.1
	PHENANTHRENE	L 0.1	L 0.1	L 0.1
METALS	ANTIMONY	L 0.1	N-D	L 0.1
	ARSENIC	L 0.1	L 0.1	L 0.1
	BERYLLIUM	L 0.1	N-D	L 0.1
	CADMIUM	L 0.1	N-D	L 0.1
	CHROMIUM	.6	L 0.1	.6
	COPPER	.4	L 0.1	.4
	CYANIDE	L 0.1	N-D	L 0.1
	LEAD	.3	N-D	.3
	MERCURY	L 0.1	N-D	L 0.1
	NICKEL	.2	N-D	.2
	SILVER	L 0.1	L 0.1	L 0.1

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L-LESS THAN; N-D=NOT DETECTED.

MASS RETURNED TO PLANT IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810309 AT 0800 HOURS

FRACTION	PARAMETER	DIGESTER SUPERNATANT	VACUUM FILTER FILTRATE	TOTAL MASS RETURNED
METALS	ZINC	1.4	L 0.1	1.4
NON-CONV. METALS	ALUMINUM	33.9	.4	34.3
	BARIUM	.7	L 0.1	.7
	BORON	.1	L 0.1	.2
	CALCIUM	208	51.8	259
	COBALT	L 0.1	L 0.1	L 0.1
	IRON	16.8	.4	17.2
	MAGNESIUM	26.2	7.0	33.2
	MANGANESE	2.0	.3	2.3
	MOLYBDENUM	L 0.1	N-D	L 0.1
	SODIUM	159	46.1	205
	VANADIUM	L 0.1	N-D	L 0.1
	YTTRIUM	.3	L 0.1	.3

POLLUTANTS NOT LISTED WERE NOT DETECTED AT ANY SAMPLE POINT
L-LESS THAN; N-D-NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810310 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL# OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	148147	130382	10513	11912	107957
	TOTAL SUSP. SOLIDS	106060	279335	7209	7992	264134
	COD	249157	450639	42053	48730	359856
	OIL & GREASE	7407	15818	3304	1071	11443
NON-CONVENTIONALS	TOTAL PHENOLS	411	27.2	21.9	1.2	4.1
	TOTAL SOLIDS	444442	537944	243308	9270	285366
	TOTAL DISS. SOLIDS	336699	258609	236099	1278	21232
	TOTAL VOLATILE SOLIDS	121548	217511	16521	5588	195402
	VOLATILE DISS. SOLIDS	52525	16004	12015	390	3599
	TOTAL VOL. SUS. SOLIDS	69023	201507	4506	5198	191803
	AMMONIA NITROGEN	5724	4073	3605	35.7	432
	TOC	101010	35247	18323	3249	13675
VOLATILES	BENZENE	4.4	.9	.9	L 0.1	N-D
	1,1,1-TRICHLOROETHANE	2.4	.6	.6	N-D	N-D
	1,1-DICHLOROETHANE	2.4	N-D	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	L 0.1	N-D	L 0.1	N-D
	CHLOROFORM	41.8	16.0	15.0	.1	.9
	1,2-TRANS-DICHLOROETHYLENE	.7	N-D	N-D	N-D	N-D
	ETHYLBENZENE	24.9	2.5	2.4	L 0.1	N-D
	METHYLENE CHLORIDE	20.5	8.1	8.1	N-D	N-D
	TRICHLOROFLUOROMETHANE	.7	.3	.3	N-D	N-D
	TETRACHLOROETHYLENE	7.7	.6	.6	N-D	N-D
	TOLUENE	94.3	11.3	10.5	.8	N-D
	TRICHLOROETHYLENE	2.4	.5	.3	.2	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	2.7	2.4	2.4	N-D	N-D
	PHENOL	96.6	4.9	4.5	.4	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	2.4	36.3	.9	.9	34.5
	1,2-DICHLOROBENZENE	N-D	.1	N-D	.1	N-D
	1,3-DICHLOROBENZENE	.3	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	1.7	.5	.3	.2	N-D
	FLUORANTHENE	N-D	.6	N-D	.6	N-D
	NAPHTHALENE	13.1	3.8	N-D	1.1	2.7
	ANTHRACENE	N-D	.1	N-D	.1	N-D
	FLUORENE	N-D	.1	N-D	.1	N-D
	PHENANTHRENE	N-D	.3	N-D	.3	N-D
METALS	ANTIMONY	N-D	.1	N-D	.1	N-D
	ARSENIC	4.7	1.6	N-D	.2	1.4
	BERYLLIUM	N-D	1.1	N-D	L 0.1	1.0
	CADMIUM	1.7	3.5	N-D	.3	3.2
	CHROMIUM	64.0	541	14.4	22.7	504
	COPPER	33.0	64.8	3.6	10.8	50.4
	CYANIDE	54.2	43.7	33.3	1.7	8.7
	LEAD	N-D	42.4	N-D	6.4	36.0
	MERCURY	.2	L 0.1	N-D	L 0.1	N-D
	NICKEL	17.8	30.1	N-D	3.1	27.0
	SILVER	3.0	7.7	.3	.9	6.5

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L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810310 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ZINC	178	208	27.9	35.7	144
NON-CONV. METALS	ALUMINUM	3047	-	99.1	NOT RUN	NOT RUN
	BARIUM	50.5	-	8.4	NOT RUN	NOT RUN
	BORON	40.4	-	29.4	NOT RUN	NOT RUN
	CALCIUM	17508	-	15019	NOT RUN	NOT RUN
	COBALT	7.4	-	2.1	NOT RUN	NOT RUN
	IRON	1569	-	48.1	NOT RUN	NOT RUN
	MAGNESIUM	2694	-	2403	NOT RUN	NOT RUN
	MANGANESE	145	-	78.1	NOT RUN	NOT RUN
	SODIUM	93266	-	69488	NOT RUN	NOT RUN
	VANADIUM	3.0	-	N-D	NOT RUN	NOT RUN

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810311 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	136345	154233	14472	17410	122351
	TOTAL SUSP. SOLIDS	103189	380061	8738	46373	324950
	COD	278088	554060	57342	64891	431827
	OIL & GREASE	14874	20731	N-D	3134	17597
NON-CONVENTIONALS	TOTAL PHENOLS	341	87.9	75.1	3.3	9.5
	TOTAL SOLIDS	486505	692963	289441	49064	354458
	TOTAL DISS. SOLIDS	384246	313321	281249	2564	29508
	TOTAL VOLATILE SOLIDS	162685	320916	30582	29438	260896
	VOLATILE DISS. SOLIDS	96681	28343	22937	728	4678
	TOTAL VOL. SUS. SOLIDS	66004	292510	7646	28647	256217
	AMMONIA NITROGEN	5578	3835	3277	53.8	504
	TOC	106907	40874	20479	3482	16913
VOLATILES	BENZENE	4.3	1.1	1.1	N-D	N-D
	1,1,1-TRICHLOROETHANE	3.4	.5	.5	N-D	N-D
	1,1,2-TRICHLOROETHANE	N-D	.6	N-D	.6	N-D
	CHLOROFORM	37.5	14.3	14.2	.1	N-D
	ETHYLBENZENE	17.4	2.3	2.2	.1	N-D
	METHYLENE CHLORIDE	22.6	10.4	10.4	N-D	N-D
	TRICHLOROFLUOROMETHANE	.6	.3	.3	N-D	N-D
	TETRACHLOROETHYLENE	66.9	12.7	11.7	N-D	1.0
	TOLUENE	79.3	13.7	13.1	.6	N-D
	TRICHLOROETHYLENE	2.8	3.2	.3	1.6	1.3
ACID EXTRACT	2,4,6-TRICHLOROPHENOL	.6	N-D	N-D	N-D	N-D
	PARACHLOROMETA CRESOL	1.2	N-D	N-D	N-D	N-D
	2,4-DICHLOROPHENOL	3.4	3.3	3.3	N-D	N-D
	2,4-DIMETHYLPHENOL	6.5	4.6	4.6	N-D	N-D
	PENTACHLOROPHENOL	4.0	N-D	N-D	N-D	N-D
	PHENOL	200	35.9	35.0	.9	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	1.5	5.4	N-D	1.9	3.5
	1,2-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	1,3-DICHLOROBENZENE	3.1	N-D	N-D	N-D	N-D
	1,4-DICHLOROBENZENE	N-D	.2	N-D	.2	N-D
	FLUORANTHENE	N-D	4.2	N-D	.6	3.4
	NAPHTHALENE	9.3	9.8	N-D	6.3	3.5
	1,2-BENZANTHRACENE	N-D	.1	N-D	.1	N-D
	11,12-BENZOFLUORANTHENE	N-D	.1	N-D	.1	N-D
	CHRYSENE	N-D	.2	N-D	.2	N-D
	ACENAPHTHYLENE	N-D	.1	N-D	.1	N-D
	ANTHRACENE	N-D	.1	N-D	.1	N-D
	FLUORENE	N-D	.3	N-D	.3	N-D
	PHENANTHRENE	N-D	.6	N-D	.6	N-D
	PYRENE	N-D	.5	N-D	.5	N-D
METALS	ANTIMONY	N-D	.2	N-D	.2	N-D
	ARSENIC	4.3	5.7	3.8	.8	1.1
	BERYLLIUM	N-D	.9	N-D	L 0.1	.8
	CADMIUM	1.9	4.1	N-D	.5	3.6

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MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810311 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	CHROMIUM	49.6	389	12.3	31.7	345
	COPPER	31.0	56.8	4.1	13.1	39.6
	CYANIDE	45.9	34.7	27.9	1.5	5.3
	LEAD	N-D	43.9	N-D	10.4	33.5
	MERCURY	.2	L 0.1	N-D	L 0.1	N-D
	NICKEL	N-D	13.8	N-D	4.1	9.7
	SILVER	2.5	8.6	.5	1.3	6.8
	ZINC	170	200	35.5	57.0	108
NON-CONV. METALS	ALUMINUM	1642	-	104	NOT RUN	NOT RUN
	BARIUM	43.4	-	7.4	NOT RUN	NOT RUN
	BORON	52.7	-	27.3	NOT RUN	NOT RUN
	CALCIUM	14874	-	12015	NOT RUN	NOT RUN
	COBALT	3.4	-	3.0	NOT RUN	NOT RUN
	IRON	1305	-	79.2	NOT RUN	NOT RUN
	MAGNESIUM	2789	-	2184	NOT RUN	NOT RUN
	MANGANESE	93.0	-	62.8	NOT RUN	NOT RUN
	SODIUM	111555	-	86559	NOT RUN	NOT RUN
	VANADIUM	2.8	-	N-D	NOT RUN	NOT RUN

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L=LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810312 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
CONVENTIONALS	BOD	199767	145530	15424	7755	122351
	TOTAL SUSP. SOLIDS	122115	153259	10854	7819	134586
	COD	354425	610443	71409	71221	467813
	OIL & GREASE	7088	21128	2571	1572	16985
NON-CONVENTIONALS	TOTAL PHENOLS	306	63.5	52.3	2.2	9.0
	TOTAL SOLIDS	512305	538011	357045	10034	170932
	TOTAL DISS. SOLIDS	389867	384180	345619	2216	36345
	TOTAL VOLATILE SOLIDS	171735	180266	67410	5619	107237
	VOLATILE DISS. SOLIDS	81195	64503	58270	475	5758
	TOTAL VOL. SUS. SOLIDS	90539	115763	9140	5144	101479
	AMMONIA NITROGEN	5800	3564	2856	60.1	648
	TOC	130493	40316	25707	2374	12235
VOLATILES	BENZENE	4.5	1.1	1.1	N-D	N-D
	CARBON TETRACHLORIDE	.3	N-D	N-D	N-D	N-D
	CHLOROBENZENE	1.3	.6	.6	N-D	N-D
	1,1,1-TRICHLOROETHANE	3.2	.9	.9	N-D	N-D
	1,1-DICHLOROETHANE	.6	N-D	N-D	N-D	N-D
	1,1,2-TRICHLOROETHANE	.3	.5	N-D	.5	N-D
	CHLOROFORM	32.2	11.0	10.0	L 0.1	.9
	1,1-DICHLOROETHYLENE	.3	N-D	N-D	N-D	N-D
	1,2-TRANS-DICHLOROETHYLENE	1.0	N-D	N-D	N-D	N-D
	1,2-DICHLOROPROPANE	.3	N-D	N-D	N-D	N-D
	1,3-DICHLOROPROPYLENE	.3	N-D	N-D	N-D	N-D
	ETHYLBENZENE	9.7	2.1	2.0	.1	N-D
	METHYLENE CHLORIDE	45.1	8.3	8.3	N-D	N-D
	TRICHLOROFLUOROMETHANE	.3	N-D	N-D	N-D	N-D
	CHLORODIBROMOMETHANE	.3	N-D	N-D	N-D	N-D
	TETRACHLOROETHYLENE	24.5	3.8	3.7	.1	N-D
	TOLUENE	93.4	12.0	11.4	.6	N-D
	TRICHLOROETHYLENE	3.2	1.3	.3	1.0	N-D
ACID EXTRACT	2,4-DICHLOROPHENOL	1.6	2.3	2.3	N-D	N-D
	2,4-DIMETHYLPHENOL	4.2	3.1	3.1	N-D	N-D
	PHENOL	146	13.4	12.6	.8	N-D
BASE-NEUTRALS	1,2,4-TRICHLOROBENZENE	N-D	11.8	N-D	2.4	9.4
	1,2-DICHLOROBENZENE	N-D	.4	N-D	.4	N-D
	1,3-DICHLOROBENZENE	.3	1.4	1.4	N-D	N-D
	1,4-DICHLOROBENZENE	2.9	.1	N-D	.1	N-D
	FLUORANTHENE	N-D	.5	N-D	.5	N-D
	NAPHTHALENE	6.1	16.5	4.3	2.5	9.7
	BIS(2-ETHYLHEXYL) PHTHALATE	N-D	.2	N-D	.2	N-D
	11,12-BENZOFLUORANTHENE	N-D	.2	N-D	.2	N-D
	CHRYSENE	N-D	.1	N-D	.1	N-D
	ANTHRACENE	N-D	.1	N-D	.1	N-D
	FLUORENE	N-D	.2	N-D	.2	N-D
	PHENANTHRENE	N-D	.4	N-D	.4	N-D
METALS	ANTIMONY	N-D	.1	N-D	.1	N-D

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L-LESS THAN; N-D=NOT DETECTED.

MASS BALANCE IN POUNDS PER DAY

FOR SAMPLE DATE ENDING 810312 AT 0800 HOURS

FRACTION	PARAMETER	INFLUENT	TOTAL* OUT	EFFLUENT	PRIMARY SLUDGE	SECONDARY SLUDGE
METALS	ARSENIC	N-D	1.7	N-D	.6	1.1
	BERYLLIUM	N-D	1.0	N-D	L 0.1	.9
	CADMIUM	1.9	4.0	N-D	.4	3.6
	CHROMIUM	35.4	431	11.4	23.7	396
	COPPER	32.2	74.4	6.3	14.1	54.0
	CYANIDE	25.8	38.5	24.9	2.2	11.4
	LEAD	N-D	36.6	N-D	8.2	28.4
	MERCURY	L 0.1	.4	L 0.1	L 0.1	.3
	NICKEL	113	79.1	28.6	10.9	39.6
	SILVER	2.6	9.0	.3	1.1	7.6
	ZINC	168	270	31.4	55.4	184
NON-CONV. METALS	ALUMINUM	1637	-	134	NOT RUN	NOT RUN
	BARIUM	51.6	-	7.7	NOT RUN	NOT RUN
	BORON	61.2	-	45.7	NOT RUN	NOT RUN
	CALCIUM	15144	-	12568	NOT RUN	NOT RUN
	COBALT	4.8	-	2.9	NOT RUN	NOT RUN
	IRON	1031	-	91.4	NOT RUN	NOT RUN
	MAGNESIUM	2578	-	2285	NOT RUN	NOT RUN
	MANGANESE	96.7	-	62.8	NOT RUN	NOT RUN
	SODIUM	96339	-	105400	NOT RUN	NOT RUN
	VANADIUM	2.6	-	N-D	NOT RUN	NOT RUN

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*U.S. GOVERNMENT PRINTING OFFICE: 1982-0-361-085/4461